

**SPECIAL SUPPLEMENTAL REPORT  
OF THE  
EMPLOYEE CONCERNS SPECIAL PROGRAM  
CORRECTIVE ACTION IMPLEMENTATION  
FOR  
WATTS BAR UNIT 1**

**TENNESSEE VALLEY AUTHORITY  
NUCLEAR**

**January 1, 1995 through August 15, 1995**

Special Supplemental Report  
WBN Unit 1 CAP Deviations

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NOTE: The Previously Approved CAP and the Revised CAP are entered in this supplement from the CAP deviations VERBATIM and therefore indented.

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EXECUTIVE SUMMARY

This is a special supplemental report of the Employee Concerns Special Program (ECSP) Corrective Action Tracking Document (CATD) Corrective Action Plan (CAP) Deviations.

The purpose of this report is to update the NRC on the Level I, IIa, and IIb CATD CAP deviations approved in support of Watts Bar Unit 1 startup during the period from January 1, 1995 through August 15, 1995. Additional CAP deviations may be processed and approved in support of Watts Bar Unit 1 startup following the issuance of this report.

This supplemental report contains 42 approved (17 Level IIa and 25 Level IIb) Watts Bar Specific CATD CAP deviations, and 16 approved (9 Level IIa and 7 Level IIb) Nonplant Specific CATD CAP deviations. There were no Level I CAP deviations approved during this period.

The Eighth Annual Report of ECSP CATD CAP Deviations will be issued during the first quarter of calendar year 1996 and will contain all other CAP deviations approved during the calendar year 1995. However, the total number of deviations should be small since all the CATDs have been closed or gone through the modified closure process with the remaining items punch listed. Based on this status, there should be no major changes to the general corrective action for each CATD, although minor CAP deviations might occur.

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CAP deviation definitions are as follows:

Level I CAP Deviation - A proposed change to a previously approved CAP whose implementation would (1) deviate from technical specifications, the design basis, or the Final Safety Analysis Report, or (2) cause a reduction in the safety margins.

Level IIa CAP Deviation - A proposed change to a previously approved Quality Related (QR) CAP whose implementation would (1) affect multiple plants; or (2) affect a programmatic area of weakness; or (3) deviate from the techniques or methods established by commitments previously made that are outside of normal engineering practices or affect the results; or (4) involve organizational changes that prohibit the implementation of the CAP.

Level IIb CAP Deviation - A proposed change to a previously approved (1) QR CAP whose implementation would deviate from techniques or methods established by the commitments previously made that are not outside of normal engineering practices and do not affect the results; or (2) QR CAP which involves organizational changes that do not prohibit the implementation of the CAP; or (3) Nonquality-related (NQR) CAP whose implementation would affect multiple plants, affect a programmatic area of weakness, deviate from techniques or methods established by the commitments previously made, or involve organizational changes that prohibit the implementation of the CAP.

Level III CAP Deviation - Any other change to a previously approved CAP that is not classified as Level I, Level IIa, or Level IIb.

## **CORRECTIVE ACTION PLAN DEVIATIONS**

### **1.0 WATTS BAR NUCLEAR PLANT (WBN)**

#### **CATD 10200-WBN-09 (LEVEL IIb DEVIATION) - CLARIFICATION CORRECTIONS TO ERRORS OF OMISSION**

CATD 10200-WBN-09 documents the issue that during the evaluation conducted by the Employee Response Team (ERT), DNE and DNC for concern #IN-85-995-002, several areas were identified where clarification corrections to errors of omissions, cross-referencing, and other actions of similar nature would improve the quality of the material contained in the FSAR.

#### **Previously Approved CAP**

The FSAR will be revised to correct administrative type deficiencies. The PAC/AQ Review, Licensing Verification Program, and the FSAR Baseline Program have identified and resolved FSAR administrative errors.

#### **Revised CAP**

The FSAR will be revised to correct administrative type deficiencies. The PAC/AQ Review, Licensing Verification Program, and the FSAR Baseline Program have identified and resolved administrative errors. The FSAR Certification and Consistency Review Project has also identified and resolved deficiencies. The FSAR will be maintained by SSP-4.02.

#### **Technical Justification**

To reflect actions taken to correct deficiencies in the FSAR.

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**CATD 10400-WBN-09 (LEVEL IIb DEVIATION) - ATTACHMENTS ADDED TO BUILDING AND MISCELLANEOUS STEEL**

CATD 10400-WBN-09 documents the issue that attachments have been added to building and miscellaneous steel (except embedded plates) without consideration of the effects of cumulative loads. Reference NCR 3659.

The need to initiate this CAP deviation was identified by the NRC.

**Previously Approved CAP**

The corrective action specified in NCR 3659R, Revision 1, addresses the problem. The corrective action was as follows:

1. The Division of Nuclear Engineering (DNE) performed a field review to determine structural adequacy.
2. DNE identified some areas requiring additional work on ECN 3255.
3. The division of Nuclear Construction (DNC) will complete required rework identified on ECN 3255.

Procedural controls (QCI-1.13) have been established in DNC which require DNE approval of attachments to building and miscellaneous steel. This will prevent recurrence.

**Revised CAP**

In addition to the corrective actions of NCR 3659R, Rev. 1, the completion of the following Corrective Action Programs (CAPs) will ensure resolution of this problem:

- 1) Hanger and Analysis Update Program
- 2) Electrical Conduit and Conduit Supports
- 3) Cable Tray and Cable Tray Supports
- 4) HVAC Duct and Duct Supports
- 5) Instrument Lines
- 6) Equipment Seismic Qualification

Procedural controls currently contained in EAI-8.07 and MAI-3.1, MAI-4.2A, and MAI-5.9 require Engineering approval for attachments to civil features. These controls will prevent recurrence of this issue.

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**Technical Justification**

Due to the potential for unauthorized attachments to building or miscellaneous steel subsequent to the completion of actions identified in the original CATD CAP, closure of this issue will additionally rely on the referenced Corrective Action Programs. These CAPs and their associated comprehensive walkdowns and re-analyses provide additional assurance to supplement the actions taken for NCR 3659R to ensure this problem is resolved.

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**CATD 11200-WBN-09 (LEVEL IIa DEVIATION) - UNAUTHORIZED WORK  
PERFORMED ON UNIT 2**

CATD 11200-WBN-09 documents the issue that SCR 6497 documents unauthorized work performed on Unit 2. SCR 6497 should be reviewed to determine if it is applicable to unit 1. Previous responses from ONP have not established a credible basis on which to assert that unauthorized work was not also performed on Unit 1.

**Previously Approved CAP**

SCR 6497 was reviewed for applicability to Unit 1, and it was determined that the SCR did not identify a condition adverse to quality on Unit 1. The lack of proper work control does not necessarily indicate a condition adverse to quality. The basis for determining that a condition adverse to quality does not exist was as follows:

1. Work control is a program to be utilized to ensure that an end is achieved. On Unit 1, the end of the construction program has been achieved in that all the systems required for Unit 1 have been transferred to the operating organization.
2. The system transfer process for Unit 1 included numerous reviews and walkdowns which would have identified and corrected any work control problems.
3. The Preoperational testing program has virtually been completed and the systems have proven to be operable through the performance of various surveillance instructions.
4. Configuration control could be the only condition adverse to quality resulting from poor work control and it was already being addressed by SCR 6297.

**Revision 1**

This revision to the Corrective Action Plan (CAP) is to add the additional items to revision 0. To assure that the previously submitted CAP is sufficient, the following additional steps will be followed:

- All NCRs generated as a result of the work release program on Unit 2 will be evaluated for applicability to Unit 1.
- Additionally a corporate study is being performed to determine the applicability to Unit 1.



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Any corrective actions resulting from the above listed actions will be tracked by administrative control program. No further revision to this CAP will be required.

1. Randomly select 64 work releases from each of the five functional areas during construction (Mechanical , electrical, Instrumentation, Civil and Startup Engineering Units).
2. Compare the work described on the release to the records and the hardware.
3. Any discrepancies found will be evaluated to determine if any other corrective action program would have discovered the discrepancy.
4. All discrepancies not covered under an existing corrective action program will be identified on a Condition Adverse to Quality Report and evaluated for further corrective action.

WBP900600PER and WBP900601PPER provide evaluations for applicability to Unit 1. The Additional Systematic Records Review (ASRR) performed extensive reviews of records and hardware to ensure that the records adequately reflect the installed configuration.

### **Revised CAP**

Delete all previous corrective actions steps from previous CAP and replace with the following:

Implementation of this CAP solely relies on implementation of the hardware review portion of the Additional Systematic Records Review. This review confirms the adequacy of plant hardware as it related to the records. This review was performed in accordance with QAI-17.01.

### **Technical Justification**

Unacceptable hardware configurations may exist for several reasons. One, unauthorized work performed after QC acceptance. Two, items which were accepted which did not meet design/procedure requirements. Three, unclear design/procedure requirements. The last two form the basis of the many CAPs/SPs at WBN. Therefore, it is very difficult to distinguish unauthorized work from authorized work. Furthermore, a component may be in accordance with design output requirements and the configuration may have resulted from unauthorized work.

As part of the implementation of the QA Records CAP, the ASRR was performed. Part of the ASRR included a hardware review. The objectives of the hardware review were as follows:

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A review was performed to assure that the records adequately reflect the installed configuration of components and features. The objective was to demonstrate by physical reinspection that construction/installations match engineering design output and installation records (e.g., drawings specifications, and inspections records).

Over 1350 components and features were reviewed under the hardware review. These reviews determined that, in some instances, the records did not match the as-installed configuration. These instances primarily involved dimensional variations from the as-designed conditions and tagging/identification items. The discipline Record Completion Teams (RCTs) reviewed each discrepancy to determine design significance, extent of condition and corrective action. During this review, the RCTs reviewed existing CAPs/SPs to determine if similar conditions were previously identified. No hardware discrepancies outside the scope of existing CAPs/SPs were determine to be design significant. Most hardware discrepancies were determined to be acceptable as is or enveloped by an existing CAP or SP.

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**CATD 17105-WBN-03 (LEVEL IIb DEVIATION) - HIDDEN CONTAINMENT  
PENETRATION VENDOR WELDS**

CATD 17105-WBN-03 documents the issue that WBN-NCR-5609 and NCR-6420 documented the concern issue of hidden containment penetration vendor welds not inspected at the time of hydro testing by the vendor or TVA. NCR-5609 was closed on a use-as-is basis; however, NCR-6420 was open at the time of evaluation pending hydrostatic testing and arbitration between TVA and NRC relative to the acceptability of NCR 5609s use-as-is disposition.

**Previously Approved CAP**

This Corrective Action Plan is in response to CATD's 17105-WBN-03, 80605-WBN-01, and 80605-WBN-02.

Discrepancies in the hydrostatic testing of penetration assemblies for Units 1 and 2 were reported on NCR 5609. Nonconforming condition report NCR 6420 was issued at a later date to address the hydrostatic testing of Unit 2 penetration assemblies only. NCR 5609 was dispositioned use-as-is for the Unit 1 penetration assemblies and based on this disposition, an N-5 Data Report was completed for the Unit 1 systems involved. Approval of the N-5 Data Report form was based on a policy approved in December 1983, by the Board on Nuclear Codes and Standards. This policy states in part:

It is the sentiment of the board on Nuclear Codes and Standards that, in these situations, the determination of how to satisfy Code requirements is best resolved through interaction and agreement between the parties involved, taking into account the specific conditions of the situation. Such agreements would include but not necessarily be limited to the Owner, applicable Certificate Holders, their respective Authorized Inspection Agencies, and appropriate jurisdictional and/or regulatory bodies.

The TVA use-as-is disposition was reviewed by the Authorized Inspection Agency, the site Authorized Nuclear Inspector, the Installer (CONST), and the N Certificate holder taking overall responsibility for the piping (EN DES). It was TVA's position at the time that these actions satisfied Code requirements. However, the agreements on the use-as-is disposition did not include the Nuclear Regulatory Commission (NRC) as required by the BNCS policy. The course of action specified below will obtain the agreement of all involved parties in the use-as-is disposition in accordance with the BNCS policy, or implement alternative actions to ensure Code requirements are met.

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- 1) TVA will prepare a report detailing the actual events leading to the use-as-is disposition of NCR 5609 and TVA's justification for Code compliance. This report will be submitted to the NRC with a request for a technical review.
  - 2) If this report is acceptable to the NRC, the Watts Bar FSAR will be revised to include the report by reference.
  - 3) If this report is not accepted by the NRC, NCR 5609 will be redispensed and pressure testing will be performed in accordance with the recommendations provided in memorandum B26 860429 014 for NCR 6400, or as required by the NRC. In either case, the final disposition will be documented in a supplement to the N-5 Data Report form. The supplement will be signed by the organizations which signed the original N-5 Data Report Form. The approved supplement will be attached to the applicable N-5 Data Form, which shall be annotated to reflect inclusion of the supplement and resigned by the same organizations which approved the original.
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- 1) TVA is waiting for the results of an NRC investigation by the NRC office of investigations and audit which has evaluated TVA's disposition of use-as-is on the penetration assemblies listed in NCR 5609 for Unit 1.
  - 2) If NRC's review agrees with TVA's, then NCR 5609 can be closed with the NRC.
  - 3) If NRC does not accept the TVA disposition, then TVA will initiate a revision to the FSAR to explain what actually occurred.
  - 4) If the NRC will not accept the proposed FSAR revision, then Unit 1 penetrations will be checked for leaks as described in the corrective action for NCR 6420.
  - 5) NCR 6420 addresses only Unit 2 penetrations and is independent of NCR 5609. This NCR will be closed when all penetration assemblies listed in NCR 6420 have been hydrostatically tested or check for leakage in accordance with the corrective action detailed in B26 860429 014. The acceptability of the U-1 welds (use-as-is) will be addressed under NCR 5609 if its disposition is not acceptable to the NRC.

**Revised CAP**

Discussion of history:

Discrepancies in the hydrostatic testing of penetration assemblies for Units 1 and 2 were reported on NCR 5609. Nonconforming condition report NCR 6420 was issued at a later date to address the hydrostatic testing of Unit 2 penetration assemblies only. NCR 5609 was dispositioned use-as-is for the Unit 1 penetration assemblies and based on this disposition, an N-5 Data Report was completed for

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the Unit 1 systems involved. Approval of the N-5 Data Report form was based on a policy approved in December 1983, by the Board on Nuclear Codes and Standards. This policy states in part:

It is the sentiment of the board on Nuclear Codes and Standards that, in these situations, the determination of how to satisfy Code requirements is best resolved through interaction and agreement between the parties involved, taking into account the specific conditions of the situation. Such agreements would include but not necessarily be limited to the Owner, applicable Certificate Holders, their respective Authorized Inspection Agencies, and appropriate jurisdictional and/or regulatory bodies.

The TVA use-as-is disposition was reviewed by the Authorized Inspection Agency, the site Authorized Nuclear Inspector, the Installer (CONST), and the N Certificate holder taking overall responsibility for the piping (EN DES). It was TVA's position at the time that these actions satisfied Code requirements. However, the agreements on the use-as-is disposition did not include the Nuclear Regulatory Commission (NRC) as required by the BNCS policy.

**Corrective Actions**

C/A #1:

Issue CAQR WBP880310 to re-address the exact condition identified in NCR 5609 for Unit 1 required penetrations.

C/A #2:

Obtain NRC acceptance/approval of the alternative acceptance criteria. (WBP880310SCA)

C/A #3:

Examine welds during pressure tests for those subject welds on penetrations which were not covered by the NRC accepted alternative acceptance criteria WBP880310SCA.

**Technical Justification**

Dividing CATDs for closure purpose, and deleting CATD No. 80605-WBN-01 which no longer exists.

History unchanged. More accurately describes the actions required by procedure and the Code, and removes excess requirements.

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C/A #1:

1. NCR 5609 was closed.
2. CAQR WBP880310SCA (readdressing the same condition) was issued, revised, and closed.
3. NCR 6420 covers Unit 2 only, and was not dispositioned use-as-is, so is outside the scope of this concern.

C/A #2:

Acceptance of the "use-as-is"/ "alternative acceptance criteria" makes these welds now in accordance with the Code due to the fact that the Code allows for alternative acceptance criteria with proper approval. The final approval required was from the NRC. This approval was obtained. The May 17, 1990, NRC letter to TVA (A02900604016) provides NRC acceptance/approval of the alternative acceptance criteria.

C/A #3:

This will bring these welds into compliance with the Code without using an alternative acceptance criteria.

This will eliminate duplication of corrective actions and institute the new corrective action steps.

**CATD 17300-WBN-15 (LEVEL IIb DEVIATION) - THERMAL-CUTOFF  
TEMPERATURE FOR SENSE LINE THERMAL ANALYSIS**

CATD 17300-WBN-15 documents the issue to reference SCR WBN EEB 8572 (Unit 1 and 8624 (Unit 2). The existing piping (tubing) in the sampling and radiation monitoring system was installed to meet seismic qualification without adequately considering thermal requirements. If these systems are subjected to an average through-wall temperature greater than 120°F, an overstress condition could occur because of thermal loads and eventually experience a fatigue failure.

**Previously Approved CAP**

A stop work order is in effect for both 43 and 90 systems while being evaluated for multiple problems. ECN's 6097 (Unit 1) and 6098 (Unit 2) referenced in corrective action section of Attachment 1, 10CFR50.55(E), report #2 (Final); SCR WBNEEB8572 (Unit 1) 8624 (Unit 2), call for supports and configuration to be modified as needed to assure adequate thermal qualifications. This applies to any lines which exceed 120° F maximum operating temperature.

This employee concern can be closed following completion of corrective action for SCR WBNEEB 8572 and WBNEEB 8624.  
STOP WORK NO. DNQA-WBN-87-01 (T19870112803)

**Revised CAP**

A stop work order is in effect for both 43 and 90 systems while being evaluated for multiple problems. ECN's 6097 (Unit 1) and 6098 (Unit 2) referenced in corrective action section of Attachment 1, 10CFR50.55(E), report #2 (Final); SCRWBNEEB8572SCA (Unit 1) SCRWBNEEB8624SCA (Unit 2), call for supports and configuration to be modified as needed to assure adequate thermal qualifications. This applies to any lines which exceed Design Criteria thermal cut-off limits.

This employee concern can be closed following completion of corrective action for SCRWBNEEB8572SCA and SCRWBNEEB8624SCA.

**Technical Justification**

1. The thermal cutoff temperature is defined in Design Criteria WB-DC-40-31.7.
2. Thermal analysis is performed in accordance with current Design Criteria requirements.

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3. The thermal cutoff value has changed from 120° F to 130° F.
4. The work scope defined by this CATD was performed at 120° F which was the thermal cutoff at the time this CATD was initiated and the defined work scope was performed.
5. SCRWBNEEB8572 and SCRWBNEEB8624 were converted to Significant Corrective Action Reports (SCAR) SCRWBNEEB8572SCA and SCRWBNEEB8624SCA. This was a CAP Level III deviation.



**CATD 20501-WBN-01 (LEVEL IIb DEVIATION) - INCOMPLETE  
CALCULATION PROGRAM FOR ALL ENGINEERING DISCIPLINES FOR  
WATTS BAR**

CATD 20501-WBN-01 documents the issue that the essential calculation program for all engineering disciplines has not yet been completed for WBN.

*NOTE: THIS CAP WAS REVISED A SECOND TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

Watts Bar has established a Calculation Activity for safety-related calculations required for Unit 1 operation as part of the Design Baseline and Verification Program (DBVP) Corrective Action Program (CAP) Plan. The essential calculations will be processed under the Calculation Activity. The implementation of the Unit 1 Calculation Activity is in conjunction with the Site Engineering Disciplines. This consists of the following Steps:

1. Identification of essential calculations (defined in procedure/instructions listed further below).
2. Location of all existing calculations.
3. Comparison of the existing calculations (Step 2) with those identified (Step 1) to determine which essential calculations do not exist.
4. Prepare and issue any missing essential calculations in accordance with NEP-3.1. These calculations will be reviewed for unverified assumptions, reasonable method/approach, etc., and are monitored in calculation logs.
5. Existing calculations will be checked on a sample basis for adequacy and depending on the results of the sample, additional calculation reviews will be done.

The essential calculations for each discipline will be complete before Unit 1 fuel loading. Prior to fuel load a schedule for the development of nonessential Unit 1 calculations will be established.

Actions for each Discipline are outlined in the following procedure/instructions:

1. Electrical Engineering Procedure Method PM 86.02, "Electrical Calculations," dated July 17, 1987 (B43870717903).
2. Civil Engineering Branch Instruction CI-21.53, "Calculations," dated July 17, 1988 (B41880715001).

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3. Mechanical/Nuclear Engineering Branch Instruction, "Classification, Categorization, and Maintenance of Design Calculations," M/NE-I-25.3.1, dated June 6, 1991 (B45910606263).

The calculation Activity completion will be documented with DBVP CAP Plan completion by the completion notification letter to the Nuclear Regulatory Commission (NRC), as discussed in W. J. Museler's September 30, 1993 letter to the NRC (T04930930973). The completion notification letter will include a listing of any Design Change Notice (DCNs) which were initiated based on activities associated with the Calculation Activity for which plant modifications are required and have not been implemented. These remaining plant modifications are considered to be outside the scope of DBVP and the Calculation Activity, and their completion is not required for Unit 1 closure of this CATD.

A plan for developing Unit 2 calculations will be established and implemented before Unit 2 fuel loading.

#### **Revised CAP**

Watts Bar has established a Calculation Activity for safety-related calculations required for Unit 1 operation as part of the Design Baseline and Verification Program (DBVP) Corrective Action Program (CAP) Plan. The essential calculations will be processed under the Calculation Activity. The implementation of the Unit 1 Calculation Activity is in conjunction with the Site Engineering Disciplines. This consists of the following Steps:

1. Identification of essential calculations (defined in procedure/instructions listed further below).
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4. Prepare and issue any missing essential calculations in accordance with NEP-3.1. These calculations will be reviewed for unverified assumptions, reasonable method/approach, etc., and are monitored in calculation logs.
5. Existing calculations will be checked on a sample basis for adequacy and depending on the results of the sample, additional calculation reviews will be done.

The essential calculations for each discipline will be complete before Unit 1 fuel loading. Prior to fuel load a schedule for the development of nonessential Unit 1 calculations will be established.

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Actions for each Discipline are outlined in the following procedure/instructions:

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2. Civil Engineering Branch Instruction CI-21.53, "Calculations," dated July 17, 1988 (B41880715001).
3. Mechanical/Nuclear Engineering Branch Instruction, "Classification, Categorization, and Maintenance of Design Calculations," M/NE-I-25.3.1, dated June 6, 1991 (B45910606263).

The Calculation Activity completion will be documented by issuance of the DBVP Calculation Activity Closure Report.

A listing of all DCNs initiated based on activities associated with the DBVP CAP for which plant modifications are required and have not been implemented has been generated for the closure of NCO item 880234024. A copy of the letter listing these DCNs and the methodology used to obtain the list will be included in the CATD closure package. Remaining plant modifications are considered to be outside the scope of DBVP and the Calculation Activity, and their completion is not required for Unit 1 closure of this CATD.

A plan for developing Unit 2 calculations will be established and implemented before Unit 2 fuel loading.

### **Technical Justification**

The proposed changes to the CAP for 20501-WBN-01 will allow full Unit 1 closure prior to issuance of the DBVP CAP completion verification letter to the NRC. The revised CAP takes credit for the Calculation Closure Report which formally documents completion of the essential elements of the Calculation Activity of the DBVP CAP. Since this CATD is only associated with that portion of the DBVP CAP, this alternate method of establishing closure documentation is justified.

With regard to the unimplemented DCNs initiated based on activities associated with the Calculation Activity, a complete list of unimplemented DCNs generated as part of the DBVP CAP has been generated as part of the closure documentation for NCO880234024. Reference to this information is justified in lieu of the DBVP completion notification letter.

**CATD 20501-WBN-01 (LEVEL IIa DEVIATION) - INCOMPLETE  
CALCULATION PROGRAM FOR ALL ENGINEERING DISCIPLINES FOR  
WATTS BAR**

CATD 20501-WBN-01 documents the issue that the essential calculation program for all engineering disciplines has not yet been completed for WBN.

*NOTE: THIS DEVIATION SUPERSEDED THE PREVIOUSLY SHOWN DEVIATION.*

**Previously Approved CAP**

Watts Bar has established a Calculation Activity for safety-related calculations required for Unit 1 operation as part of the Design Baseline and Verification Program (DBVP) Corrective Action Program (CAP) Plan. The essential calculations will be processed under the Calculation Activity. The implementation of the Unit 1 Calculation Activity is in conjunction with the Site Engineering Disciplines. This consists of the following Steps:

1. Identification of essential calculations (defined in procedure/instructions listed further below).
2. Location of all existing calculations.
3. Comparison of the existing calculations (Step 2) with those identified (Step 1) to determine which essential calculations do not exist.
4. Prepare and issue any missing essential calculations in accordance with NEP-3.1. These calculations will be reviewed for unverified assumptions, reasonable method/approach, etc., and are monitored in calculation logs.
5. Existing calculations will be checked on a sample basis for adequacy and depending on the results of the sample, additional calculation reviews will be done.

The essential calculations for each discipline will be complete before Unit 1 fuel loading. Prior to fuel load a schedule for the development of nonessential Unit 1 calculations will be established.

Actions for each Discipline are outlined in the following procedure/instructions:

1. Electrical Engineering Procedure Method PM 86.02, "Electrical Calculations," dated July 17, 1987 (B43870717903).
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The Calculation Activity completion will be documented by issuance of the DBVP Calculation Activity Closure Report.

A listing of all DCNs initiated based on activities associated with the DBVP CAP for which plant modifications are required and have not been implemented has been generated for the closure of NCO item 880234024. A copy of the letter listing these DCNs and the methodology used to obtain the list will be included in the CATD closure package. Remaining plant modifications are considered to be outside the scope of DBVP and the Calculation Activity, and their completion is not required for Unit 1 closure of this CATD.

A plan for developing Unit 2 calculations will be established and implemented before Unit 2 fuel loading.

#### **Revised CAP**

Watts Bar has established a Calculation Activity for safety-related calculations required for Unit 1 operation as part of the Design Baseline and Verification Program (DBVP) Corrective Action Program (CAP) Plan. The essential calculations will be processed under the Calculation Activity. The implementation of the Unit 1 Calculation Activity is in conjunction with the Site Engineering Disciplines. This consists of the following Steps:

1. Identification of essential calculations (defined in procedure/instructions listed further below).
2. Location of all existing calculations.
3. Comparison of the existing calculations (Step 2) with those identified (Step 1) to determine which essential calculations do not exist.
4. Prepare and issue any missing essential calculations in accordance with NEP-3.1. These calculations will be reviewed for unverified assumptions, reasonable method/approach, etc., and are monitored in calculation logs.
5. Existing calculations will be checked on a sample basis for adequacy and depending on the results of the sample, additional calculation reviews will be done.

The essential calculations for each discipline will be completed before Unit 1 fuel loading.

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Actions for each Discipline are outlined in the following procedure/instructions:

1. Electrical Engineering Procedure Method PM 86.02, "Electrical Calculations," dated July 17, 1987 (B43870717903).
2. Civil Engineering Branch Instruction CI-21.53, "Calculations," dated July 17, 1988 (B41880715001).
3. Mechanical/Nuclear Engineering Branch Instruction, "Classification, Categorization, and Maintenance of Design Calculations," M/NE-I-25.3.1, dated June 6, 1991 (B45910606263).

The Calculation Activity completion will be documented by issuance of the DBVP Calculation Activity Closure Report.

A listing of all DCNs initiated based on activities associated with the DBVP CAP for which plant modifications are required and have not been implemented has been generated for the closure of NCO item 880234024. A copy of the letter listing these DCNs and the methodology used to obtain the list will be included in the CATD closure package. Remaining plant modifications are considered to be outside the scope of DBVP and the Calculation Activity, and their completion is not required for Unit 1 closure of this CATD.

A plan for developing Unit 2 calculations will be established and implemented before Unit 2 fuel loading.

### **Technical Justification**

Based on a CCRIS listing generated on July 18, 1995, approximately 670 nonessential (desirable) calculations currently exist for WBN. Since the scope of the DBVP CAP calculation activity only encompasses safety-related (essential) calculations, no further work will be done on nonessential calculations. Nonessential calculations are deemed to be technically adequate to support balance of plant system function and operation since they were prepared originally in accordance with industry standards and preoperational tests prove the functionality of the design. Safety-related calculations included within the DBVP are those necessary to ensure the integrity of the reactor coolant pressure boundary; ensure the capability to shut down the reactor and maintain it in a safe shutdown condition; or ensure the capability to prevent or mitigate the consequences of an incident which could result in potential offsite exposures comparable to those specified in 10 CFR 100. The calculation activity also encompassed certain calculations necessary to establish or support plant features which must either: retain adequate structural integrity because its failure could jeopardize to an unacceptable extent the achievement of a primary safety function or because it forms an interface between seismic category I and non-

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seismic category I plant features; or perform a function that is not a primary safety function but whose failure or unwanted action could jeopardize to an unacceptable extent the achievement of a primary safety function. This criteria is outlined in Section 3.0 of Attachment 4 to the DBVP CAP.

**CATD 20703-WBN-02 (LEVEL IIa DEVIATION) - ACCEPTANCE OF  
PREOPERATIONAL TEST DEFICIENCIES NOT SUPPORTED BY  
ADEQUATE TECHNICAL JUSTIFICATION DOCUMENTATION**

CATD 20703-WBN-02 documents the issue that a significant number of preoperational test deficiencies were accepted based on engineering judgments that were not supported with adequate technical justification documentation.

**Previously Approved CAP**

System Preoperational testing will be re-performed in accordance with the Watts Bar Nuclear Plant Start-Up Manual. Test deficiencies identified during the performance of the new program testing will be resolved in accordance with Start-up Manual procedure SMP-14.0 "Test Deficiencies". SMP-14.0 requires that for any deficient condition which requires a disposition of "Repair" or "Accept-As-Is", a DCN shall be initiated to document the NE resolution.

**Revised CAP**

Issue SMP-14.0 "Test Deficiencies" to govern and provide requirements for test deficiency resolution.

**Technical Justification**

The intent of the previous CAP deviation was to justify not addressing specific deficiencies of the old Preop Test Program. This deviation is justified by TVA's commitment to reperform the Preoperational Test Program.

System Preoperational testing are required to be reperformed in accordance with the Watts Bar Nuclear Plant Startup Manual. Test deficiencies identified during the performance of the new program testing are resolved in accordance with Startup Manual procedure SMP-14.0 "Test Deficiencies." SMP-14.0 contains the requirement that a DCN shall be initiated to document the NE resolution for any deficient condition which requires a disposition of "Repair" or "Accept-As-Is."

The new preoperational test results supersede the previous preoperation test results. Therefore, the previously identified deficiencies do not require resolution.

The proposed CAP is necessary to take credit for the current preoperational test program requirements eliminating the source of the concern (i.e., the old program test deficiency



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acceptance problems) and to clearly list what corrective actions are required to close this CATD.

**CATD 20703-WBN-03 (LEVEL IIa DEVIATION) - PROCEDURAL  
DEFICIENCIES FOUND IN PREOPERATIONAL TEST RESULT PACKAGES**

CATD 20703-WBN-03 documents the issue of procedural deficiencies or inconsistencies found in preoperational test result packages as described below:

**SPECIFIC PROCEDURAL DEFICIENCIES AND INCONSISTENCIES**

- I. Preoperational Test W-4.1. Deficiency DN39 (PT 226) was closed by PT 225, R1, Supplement 1, and PT 224, R1, Supplement 1. In addition, PT 226 was tied to PT 224 and PT 225 in Appendix B in the column for "Disposition of Deficiency," but there was no mention of PT 226 in the Test Report Form #4.
- II. Preoperational Test #TVA-138. NCR dated May 11, 1981 (page 22 p.7) was tied to TR 38110 and Deficiency DN21. This deficiency was not mentioned in the Test Summary Report but dispositioned in Appendix B as closed by TR 38110. This NCR was neither approved Engineering nor by the NUC PR. Even though Deficiency DN-22 was not mentioned in the Test Summary Report, this was dispositioned as closed in Appendix B and Engineering commented that no further action is needed by NUC PR. Data sheet 5.2.1 did not include all the information required by Scope Document No. TVA-13, paragraph 8.7.c (1 through 5)
- III. Preoperational Test #TVA-138RT. Test Record Form #4 was neither submitted nor mentioned in the test results package transmittal form for Deficiencies DN53, DN54, and EX 33. However, these were dispositioned as closed in Appendix B. There was no clear evidence to identify that Engineering had approved Deficiencies DN53, DN54, or EX 33. EX 32 was approved by Engineering even though the acceptance criteria were not met.
- IV. Preoperational Test #TVA-1. Even though Deficiency DN6 is an open item per Appendix B and the Test Summary Report, Engineering approved the test results package as a complete package without resolving the item.
- V. Preoperational Test #TVA-15. Deficiency DN11 (PT42) was approved by Engineering with a comment, "Control power key diagram to be revised to show the sync signal circuit breaker on the distribution panel as normally open, No". No evidence was found to identify that the key diagram has been revised. The scope document has been revised to clear the Deficiency DN11 but no change notice was issued for PTI. The scope document also stipulated, "Also the removal of sync signal to the inverter section of the UPS must not deform the output waveform magnitude by any more than 2%". Test results were found to be deficient in this requirement. Engineering approved the test results as a complete package without approving the Deficiency DN14 (PT 537). Test Record Form #4 included PT 537 but not DN14. Appendix B also dispositioned this deficiency as closed.

### **Previously Approved CAP**

The old program test results packages referred to in the Problem Description are no longer valid due to the complete preoperational retesting being performed in accordance with the Watts Bar Nuclear Plant Start-Up Manual. A Test Engineer will perform a technical and administrative review of the new program test results packages as required by SMP 10.0 "Packaging and Processing Test Results". The test results packages will also receive a Joint Test Group review in accordance with SMP 10.0. These reviews are required by the Nuclear Quality Assurance Plan NQAP TVA-NQA-PLN 89-1 and will control the occurrence of procedural deficiencies and inconsistencies within the new program preoperational test results packages.

### **Revised CAP**

Issue SMP-10.0 "Packaging and Processing Test Results" to govern and provide requirements for results packages.

### **Technical Justification**

The intent of the previous CAP deviation was to justify not addressing specific deficiencies of the old Preop Test Program. This deviation is justified by TVA's commitment to reperform the Preoperational Test Program.

The old program test results packages referred to in the Problem Description are no longer valid due to the complete preoperational retesting being performed in accordance with the Watts Bar Nuclear Plant Startup Manual. A Test Engineer is required to perform a technical and administrative review of the new program test results packages by SMP 10.0 "Packaging and Processing Test Results." The test results packages will also receive a Joint Test Group review in accordance with SMP 10.0. These reviews are required by the Nuclear Quality Assurance Plan NQAP TVA-NQA-PLN 89-A and will prevent the occurrence of procedural deficiencies and inconsistencies within the new program preoperational test results packages.

The new preoperational test results supersede the previous preoperation test results. Therefore, the previously identified deficiencies do not require resolution.

The proposed CAP is necessary to take credit for the current preoperational test program requirements eliminating the source of this concern (i.e., the old program test results package problems) and to clearly list what corrective actions are required to close this CATD.

**CATD 20801-WBN-01 (LEVEL IIb DEVIATION) - CONTROL ROOM DESIGN REVIEW PROCESS IS NOT COMPLETE**

CATD 20801-WBN-01 documents the issue that the NUREG-0700 Detailed Control Room Design Review process is not complete.

**Previously Approved CAP**

The Control Room Design Review (CRDR) process specified by NUREG 0737, and meeting the intent of NUREG-0700 is essentially complete. Corrective actions are being finalized for review and approval. The summary report is currently scheduled for submittal to the Nuclear Regulatory Commission (NRC) by August 1, 1987.

**Revised CAP**

- 1) The Control Room Design Review (CRDR) process specified by NUREG-0737, and meeting the intent of NUREG-0700 is presented in the DCRDR Summary Report.
- 2) A procedure will be developed to control closing out all human engineering concerns and discrepancies.
- 3) A correlation to show the HED corrective actions that also resolve Appendix D human factor concerns will be developed.
- 4) A schedule of CRDR items will be implemented in order to track all remaining CRDR activities.
- 5) QA monitoring will be conducted during the CRDR closure process to insure the process is functioning properly.

Note: All the above CAPs have been completed.

**Technical Justification**

The revision to the CAP is provided to clearly define the corrective actions necessary for closure of this CATD. The employee concern dealt with the CRDR "process" not being in place. The proposed CAP addresses the areas that define the process, controls the process and ensures the process is functioning properly. The CRDR process has been well defined and put in place as described by the DCRDR Summary Report. In addition, SAI-10.01, CLOSING OUT CONTROL HUMAN ENGINEERING CONCERNS AND DISCREPANCIES, is in place to complete all remaining CRDR actions. In accordance with SAI-10.01, closure packages are being developed for the closure of each human engineering discrepancy (HED). Less than 10 percent of the HEDs remain open.

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The CRDR process as defined by SAI-10.01 will be assessed by QA to ensure the process is functioning properly. A CRDR Closure Report is being developed to summarize all CRDR activities. The report will also include the punchlist of remaining activities with their associated completion schedules.

In conclusion, the CRDR process is well defined, controls have been implemented to ensure proper completion and since, over 90 percent of the HEDs have been implemented and closed, this CATD can be fully closed.

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**CATD 21002-WBN-01 (LEVEL IIa DEVIATION) - EQUIPMENT  
QUALIFICATION PROGRAM**

CATD 21002-WBN-01 documents the issue that an Equipment Qualification Program that reflects the successfully completed SQN equipment qualification program has not been fully implemented at WBN.

**Previously Approved CAP**

All open items required to be completed before Unit 1 fuel load will be resolved and documented in accordance with EAI 7.05 which replaces WBEP 5.16, WBEP-EP 43.06, WBEP-SEP-08, and WBN-EQP-1.

**Revised CAP**

WBN will have an Equipment Qualification (EQ) program with procedures and documentation to ensure compliance with 10CFR 50.49

**Technical Justification**

This CATD is applicable to both Units 1 and 2 and will be open until the Unit 2 "HOLD STATUS" is lifted. The emphasis of this CATD is on the programmatic issues related to the EQ program. As shown by audits conducted by WBN QA and the NRC, the EQ program and procedures for WBN are acceptable in addressing all EQ aspects, including "Open Items," and meet the requirements of 10CFR 50.49.

**CATD 21509-WBN-01 (LEVEL IIb DEVIATION) - INADEQUATE  
CALCULATIONS FOR STRUCTURAL STEEL BEAMS**

CATD 21509-WBN-01 documents the issue that WBN has structural steel beams using mixed bolted and welded connections. Related calculations are inadequate to justify the installed connections. (Base plates are attached to the concrete surface using a combination of concrete anchors and welds to embedded plates.)

The need to initiate this CAP deviation was identified by the NRC.

**Previously Approved CAP**

- 1) PIRWBN8573 was written to address the problems associated with connections which mix both anchor bolts and welds for supports covered by the 47A050 drawing series. Resolution of this PIR included evaluation of 49 connections of this type. These 49 connections involved pipe, conduit, and duct supports and were the most highly stressed cases contained on approximately 1500 drawings which were generated to show attachments to embedded plates which violate Construction Specification N3C-928.
- 2) In order to address the similar problem noted on CATD 21509-WBN-01, an additional 20 connections will be evaluated to form a basis for acceptability. The additional 20 connections, 10 each from platforms and cable tray support baseplates, will also be biased toward those expected to have higher stresses.
- 3) The additional selection of 20 will be derived from a drawing review and will come from the Auxiliary/Control Buildings and the Reactor Building. They will be reviewed for the actual baseplate reactions due to design load combinations. The baseplates will be analyzed by distributing all shear forces to the weld, including resulting torsion from eccentric weld geometry. The evaluation will be considered acceptable if the actual calculated weld stresses are less than the allowable.
- 4) The total sample of 69 baseplates will form a worst case sample that envelopes the remaining population. If failures are encountered remedial measures will be implemented to resolve the particular failures and the generic implications will be identified, evaluated, and resolved as required. Additional worst cases samples will be selected if the evaluation of the sample of 69 indicates that the adequacy of the remaining population is in doubt.

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- 5) In order to preclude recurrences of the subject problem, R. O. Barnett, Chief Civil Engineer, has issued policy memorandum PM-86-17 (CEB) RIMS (B41 860911 011) instructing designers to distribute all shear loads to welds in base plate connections comprised of welds and anchor bolts (per AISC Spec 1.15.10). The requirements of PM-86-17 were incorporated into Civil Design Guide DG-C1.6.4, "Design of Structural Steel Connections" and Watts Bar Design Criteria WB-DC-40-31.9, "Criteria for Design of Piping Supports and Supplemental Steel in Category I Structures".

**Revised CAP**

- 1) No change for this paragraph.
- 2) No change for this paragraph
- 3) No change for this paragraph.
- 4) A worst case population of 69 baseplates which envelopes the remaining population will be evaluated. If failures are encountered remedial measures will be implemented to resolve the particular failures and the generic implications, if any, will be identified, evaluated, and resolved as required. Additional worst cases will be selected if the evaluation of the worst case population of 69 indicates that the adequacy of the remaining population is in doubt.
- 5) No change for this paragraph.

**Technical Justification**

The changes remove references to sampling since the approach does not involve statistical sampling.



**CATD 21511-WBN-02 (LEVEL IIb DEVIATION) - ADEQUACY OF SPARE SLEEVE SEALS TO SUPPORT THE WEIGHT OF A WORKER**

CATD 21511-WBN-02 documents the issue that spare floor sleeve penetration seals (approximately 10-inch diameter or larger) made of RTV silicon foam have not been reviewed for adequacy of seal to support the weight of a person or need installation of protective covers.

**Previously Approved CAP**

The ability of thru-floor spare sleeve seals to support the weight of a worker can be demonstrated by reviewing the results of CEB Report 82-2. An engineering evaluation of 10-inch or larger spare floor sleeves sealed with RTV silicon foam will be performed to determine adequacy of seal to support the weight of a worker. CEB Report 82-2 (CEB 820408005) which documented previous test results to determine the loads imposed on the pipe by the RTV foam will be used for the evaluation of seal adequacy.

A walkdown of the 10-inch diameter and larger spare floor sleeves will be conducted to evaluate the need for covers to protect the foam from physical abuse to ensure that the seal will continue to perform its intended safety function.

**Revised CAP**

Install screen covers over 10" and larger spare floor sleeves containing RTV silicone foam seals, silicone elastomer seals, or no seals. Implement DCN P-00801, DCN P-00803, & 47W472-7 Detail C7.

Perform evaluation of the screen covers to show there is sufficient strength to support the weight of a worker.

Implement DCN to revise "duct tape" note in Detail C7 of 47W472-7. This note will read: "Protruding ends of wire mesh may be secured to sleeve with duct tape." This DCN will also add a Source Note to the drawing indicating the covers have been evaluated for worker protection and the evaluation is documented in the DCN.

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**Technical Justification**

During the original work for this CATD, it was found that there was a need to cover the seals to prevent damage, and yet the sleeves seals still needed to be visible for inspection purposes.

Evaluation of the ability of the screens to provide the needed level of protection will provide a better solution than the original CAP as there are different types of seals besides the foam, and because some sleeves only have the screen wire cover with no seal required. Any support provided by the seal, if one is installed, is added protection.

Revision allows removal of the duct tape to eliminate housekeeping, ALARA, and debris transport to drain concerns where they are an issue. None of the ends of the covers inspected during NE field verification had protruding wire ends sticking out beyond the sleeve sufficient to be a worker safety hazard. Normally, the edges are only touched during cover removal when duct tape would already be removed.

This CAP directly answers the CATD, and provides verifiable worker protection. Screen also provides protection for sleeve seals, and allows the seals to be inspected. Screen covers are readily removable for repair and replacement of both the seals and the covers.

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**CATD 22011-WBN-01 (LEVEL IIb DEVIATION) - CORRECTIVE ACTION FOR  
PIR WBN CEB 8536 HAS NOT BEEN COMPLETED**

CATD 22011-WBN-01 documents the issue that corrective action for PIR WBN CEB 8536 has not been completed. This is issued for tracking purposes only. No additional corrective action plan is required.

**Previously Approved CAP**

Issues

- a. The expansion of structural members restrained between two rigid points (such as concrete surfaces) will cause additional loading on members.
- b. The thermal expansion of pipe will impose loads on the pipe supports.

Findings

- a. The lack of consideration for temperature variation in the Watts Bar pipe support design would cause additional loading on members restrained between two rigid points. The proposed corrective action plan to Watts Bar problem identification report PIR WBNCEB8536 (Ref. 36) will adequately address the temperature variation issue for pipe support design.
- b. The pipe expansion imposed loads on pipe supports are considered in the Watts Bar pipe support design.

Corrective Actions

- a. No additional corrective action is required beyond the corrective action plan to PIR WBN CEB 8536. CATD 220 11 WBN 01 is provided only for ECTG tracking of the corrective action of PIR WBN CEB 8536.
- b. No corrective action is required.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

**CATD 22203-WBN-01 (LEVEL IIb DEVIATION) - PIPE SUPPORTS**

CATD 22203-WBN-01 documents the issue that (a) Installation orientation for item 3 of Pipe Support 47A400-11-47 R3 and for item 7 of Pipe support 47A400-11-48 R3 is not specified on the drawings; (b) Conflicting fillet weld detail (all around and two sides) for items 5 and 2 is shown pipe support 47A400-27 R3.

**Previously Approved CAP**

Additional dimensions will be added to support drawings 47A400-11-47 R3 and 47A400-11-48 R3 to clarify the orientation of lugs attached to the pipe clamps. Similarly a revision will be made to drawing 47A400-27-R3 to show an all around weld. The correct installation of the lugs and the all around weld have been verified by field walkdown. Watts Bar pipe support designers will be made aware of these inadequate detailing practices by a memorandum. TVA will also review all safety-related engineering support drawings for these types of inadequacies and make any drawing changes as required. Work will be initiated and tracked by PIR WBN WBP 8760 R0 and PIR WBN WBP 8768 R0.

**Revised CAP**

Additional dimensions will be added to support drawing 47A400-11-48 R3 to clarify the orientation of lugs attached to the pipe clamp. Similarly, a revision will be made to drawing 47A400-11-27 R3 to show an all around weld. Pipe support 47A400-11-47 will be deleted based on Calculation 47A40011047 R2. The support drawing will be updated to reflect its removal. The correct installation of the lugs and the all around weld have been verified by field walkdown. Watts Bar pipe support designers will be made aware of these inadequate detailing practices by a memorandum. TVA will also review all safety-related engineering support drawings for these types of inadequacies and make any drawing changes as required. Work will be initiated and tracked by PIR WBN WBP 8760 R0 and PIR WBN WBP 8766 R0.

**Technical Justification**

Additional dimensions for support 47A400-11-47 are no longer required since the support has been deleted as a result of the HAAUP program. Calculation 47A40011047 R2 verifies the deletion of the support.

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**CATD 22600-WBN-03 (LEVEL IIb DEVIATION) -DISAGREEMENT BETWEEN  
DETAILS IN DRAWING AND TEXT FOR EMERGENCY LIGHT**

CATD 22600-WBN-03 documents the issue that the details in Figure 4.7-1 and drawing 47A057-6 R2 for the emergency light do not agree with the text of Section 5.0 of WB-DC-40-31.11. Drawing 47A057 does not provide emergency light details for pendant mounted application as stated in drawing 45W1418-4, R10.

**Previously Approved CAP**

DNE (Knoxville) will revise the design documents to resolve the discrepancies. A new drawing will be added to the 47A057 series to provide emergency light details for pendant mounted applications as stated on drawing 45W1418-4, R10. The existing lighting fixtures will be evaluated for acceptability and/or modified to meet requirements by DNC (MODS) for Unit 1 and DNE for Unit 2. A notification will be written by DNE to inform DNC that these requirements will be made retroactive to both units.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

**CATD 22800-WBN-02 (LEVEL IIb DEVIATION) -DISAGREEMENT BETWEEN  
TVA TEST RESULTS AND VENDOR**

CATD 22800-WBN-02 documents the issue that TVA Singleton Lab test results for P2558-20 to 50 Unistrut clamps for load direction parallel to the pipe axis and used by TVA for the design are two to three times higher than the Unistrut Corp. test results.

**Previously Approved CAP**

TVA DNE acknowledges that there is a difference between clamp data supplied by Unistrut Corporation and those developed from tests performed at Singleton Laboratories for the direction parallel to the pipe axis for Unistrut P2558-20 to P2558-40 clamps. The likely cause of this discrepancy is due to the different materials which were tested. TVA DNE Knoxville will reevaluate all previous test data generated by TVA including the new data from SQN (B46 870109 001) and Unistrut to check the validity of past tests and determine if inconsistencies exist. To obtain data for the P2558-50 clamp, values will be extrapolated from the previous clamp data or the clamp will be tested by Singleton. If it is determined that the current allowable loads are unconservative, the PSDM will be revised to reflect the correct values and a CAQ initiated. Corrective actions will be taken as necessary to resolve the CAQ if initiated. This possibly will include sampling the installed condition, a design evaluation, and modifications to installed supports as necessary.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

**CATD 23002-WBN-01 (LEVEL IIb DEVIATION) - HVAC EQUIPMENT FAILURES**

CATD 23002-WBN-01 documents the issue that the corrective actions suggested in the Design Study Request (DSR) #021 - Investigation of HVAC equipment failures, have not yet been completed.

**Previously Approved CAP**

1. Design Study Request (DSR-021) was established by the Mechanical Maintenance Section to provide an approved means for DNE to provide timely support to the plant in evaluating and recommending solutions, and cost estimates, for individual HVAC equipment problems identified by plant maintenance personnel. To date, DNE has received and process two requests from the plant for support in this area.
2. DNE involvement in Phase I of the DSR was completed on March 10, 1986 with DNE recommending as corrective action to clean the dirty coils in the air handling units (B44860310010). Mechanical Maintenance has requisition 380299 out for bids from outside contractors for coil cleaning. The schedule for coil cleaning will be established by Mechanical Maintenance at their convenience and based on their priorities.
3. DNE involvement in Phase II of the DSR was completed on April 29, 1986. DNE recommended various corrective actions dealing with recurring fan bearing, damper linkage, filter and motor adjustment problems with these air handling units (B26860492016). Mechanical Maintenance has submitted Design Change Request (DCR-692) for this work and is in the process of obtaining approval from the Change Control Board. This work is scheduled to be completed after fuel loading.
4. DNE has no outstanding items on this DSR and at this time Mechanical Maintenance has not presented any additional items to DNE for evaluation.

**Revised CAP**

1. Design Study Request (DSR-021) was established by the Mechanical Maintenance Section to provide an approved means for DNE to provide timely support to the plant in evaluating and recommending solutions, and cost estimates, for individual HVAC equipment problems identified by plant maintenance personnel. DNE received and processed two requests from the

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plant for support in this area. NE has no outstanding items on this DSR, and no other issues were presented to NE by Mechanical Maintenance under DSR-021. The DSR process is no longer in use.

2. DNE involvement in Phase I of the DSR was completed on March 10, 1986 with DNE recommending as corrective action to clean the dirty coils in the air handling units (B44860310010). Another recommendation of DSR-021 Phase I was to replace the coils if the cleaning was not successful. Due to lack of success at cleaning the coils, replace the coils in accordance with approved design change as specified in DCN M-02693-A.
3. DNE involvement in Phase II of the DSR was completed on April 29, 1986. DNE recommended various corrective actions dealing with recurring fan bearing, damper linkage, filter and motor adjustment problems with these air handling units (B26860492016). DCN M-02693-A has been issued as an approved design change to implement (with some revisions) the DSR recommendations. Issue work documents to implement this DCN.
4. (Delete this paragraph.)
5. Implement DCN W-36627-A.
6. Complete PTI-31Q-01 (Pre-op test). Complete AB31Q-01 (Air balance test).
7. The above actions are the final corrective actions required for closure of this CATD.

#### Technical Justification

1. The first paragraph in the Previously Approved CAP, including the words added in the Revised CAP, is simply historic information.
2. Revision to this paragraph captures the additional recommendation from DSR-021 Phase I which was implemented due to unsuccessful coil cleaning. The Design Change Notice which approved installation and use of the new coils is also listed.
3. Revision to this paragraph was needed to address the fact that (1) no evidence could be found to prove the DCR program document was ever approved, (2) no DCR copy could be found to show positively what it addressed, and (3) the DCR process was replaced by the DCN process. The Design Change Notice that was issued to



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implement (with some revisions) the DSR-021 Phase II recommendations is listed in place of the DCR.

4. The words from this paragraph are now addressed in the first paragraph.
5. DCN W-36627-A provides alignment tolerance for the two piece shaft. Implementation provides assurance that the shaft is acceptably aligned and will be in the future. DCN also provides for shaft and sheave replacement.
6. Completion of tests PTI-31Q-01 and AB31Q-01, and approval of results, provide assurance that the CB-EBR-AHU's meet acceptance requirements for the system now that all the corrective actions required for this CATD have been completed.
7. The continued tracking and trending of the vibration characteristics for these units is covered by the Predictive Maintenance program. TI-31.02 defines the Predictive Maintenance program and referenced PM O-VIBR-777-MONITOR for scheduling purposes. Routine testing of the entire unit is not scheduled as such, but rather testing is triggered by performance of MI-0.16, and other PMs, which affect vibration of the unit. This is due to operability and safety considerations. The sheave end bearing is on a monthly schedule as it is exterior to the AHUs. When a vibration problem is found, or suspected, the Predictive Maintenance program increases the frequency of vibrations readings consistent with operating and safety requirements, pending vibration source discovery and/or correction.

**CATD 23105-WBN-01 (LEVEL IIa DEVIATION) -ACCUMULATION OF  
HYDROGEN IN EXHAUST HOODS AND DUCTS UPON DAMPER FAILURE**

CATD 23105-WBN-01 documents the issue that the DG battery I through IV exhaust hoods and ducts may accumulate hydrogen upon damper failing closed.

**Previously Approved CAP**

This concern is not a nuclear safety concern when evaluated from a single failure standpoint.

1. A mechanical failure of the DG battery exhaust fan would render the fan inoperable; however, the discharge damper would remain open since power is still available. This situation leaves an open flowpath for hydrogen removal to the outside. This condition is documented in the Failure Modes and effects Analysis, Section 9 of the FSAR. Failure of the fan due to a loss of power to the fan would be detected in sufficient time since the fan is inspected for operation every 8 hours (See OSLA-27).
2. A loss of power failure of a single train will cause the fan to shut down and its associated damper to close. Since the battery chargers are powered by the same train of that which is lost; there will be no hydrogen accumulation from battery overcharging.
3. A mechanical failure of the exhaust damper to open or remain open during fan operation will not prevent hydrogen venting through damper leakage. During battery overcharging, assuming worst case conditions; the batteries are capable of producing 0.14 ft of hydrogen per hr. A damper leakage rate of just 1ft/min is enough to vent the hydrogen with a safety factor of 428. A mechanical leakage test was conducted and documented on 03/03/87 for three of the four battery exhaust dampers which were positioned in a failure mode (closed).

The results are as follows:

<u>Damper No.</u>	<u>Power Train</u>	<u>CFM Leakage Data Measured at Exhaust Hood, Fan Operating</u>
1-FCO-30-455A	1A-A	223
1-FCO-30-457B	1B-B	72
2-FCO-30-456A	2A-A	*
1-FCO-30-458B	2B-B	205

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\*2-FCO-30-456A is under Maintenance Request No. 537679 and therefore will not be tested for leakage. The same or similar results would be expected as for the tested dampers.

**Revised CAP**

Per TVA DCN W-32302-A, the DG battery exhaust system (hoods, fans, ducts, and dampers) has been abandoned in place. The system is no longer operable. The DG room exhaust fans provide more than adequate air flow to purge the battery area and preclude detrimental hydrogen accumulation. This is documented in calculation TI-628, revision 7. The calculation shows that it takes 52.2 days to reach a 2% hydrogen concentration with no ventilation in the room. The DG room exhaust fans are required to be tested every 31 days. This will provide the ventilation necessary to prevent hydrogen concentration levels from reaching the 2% limit.

**Technical Justification**

The CAP must be revised to reflect the plant design per DCN W-32302-A. This revision has no impact on the CAP technical conclusion.

**CATD 23702-WBN-02 (LEVEL IIa DEVIATION) - NO CALCULATIONS FOR  
CIRCUIT BREAKER SETTINGS**

CATD 23702-WBN-02 documents the issue that no calculations or other bases could be found to demonstrate that circuit breaker settings provide adequate full range short circuit protection for motor starter, cable, and motor.

**Previously Approved CAP**

Problems regarding identification, performance, and revisions of electrical calculations were documented as a condition adverse to quality for Watts Bar in SCRWBNEEB8571. As part of corrective action and action to prevent recurrence for this SCR, EEB contracted for a long-term electrical calculations program which included administrative and technical procedures for the performance of electrical calculations and detailed training in the use of quality-assured computer calculations programs.

Calculations to demonstrate that circuit breaker settings provide adequate full range short circuit protection for motor starter, cable, and motor will be performed as part of the long term electrical calculations program.

**Revised CAP**

Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined in CATD 20501-NPS-04.

Calculations to demonstrate that circuit breaker settings provide adequate full range short circuit protection for motor starter, cable, and motor will be performed as part of this program.

**Technical Justification**

The purpose of the long term electrical calculations program is to ensure that calculations required to support the design and operating basis of the plant are performed and maintained. This has been adequately conveyed and documented in CATD 20501-NPS-04, and it is not necessary to repeat these requirements in CATD 23702-WBN-02. CATD 23702-WBN-02 will provide corrective action and documentation of the adequacy of circuit breaker settings.

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In addition, SCRWBNEEB8571SCA is not required to be closed for this CATD. The SCAR is presently being tracked as a Category 4 Action Item for CATD 20501-WBN-01 as documented in the memorandum from M. W. Alexander to W. L. Elliott dated March 9, 1995 (T36950309816).

**CATD 23702-WBN-03 (LEVEL IIa DEVIATION) - NO DOCUMENTATION ON  
DIESEL ERCW VALVE OPERATOR FUSES**

CATD 23702-WBN-03 documents the issue that corrective action for PIRWBNEEB8638 increased the rating for fifth diesel ERCW valve operator fuses to provide sufficient margin for emergency operation. However, no documentation could be found to establish that additional margin provided by the larger fuses would be sufficient.

**Previously Approved CAP**

Problems regarding identification, performance, and revisions of electrical calculations were documented as a condition adverse to quality for Watts Bar in SCRWBNEEB8571. As part of corrective action and action to prevent recurrence for this SCR, EEB contracted for a long-term electrical calculations program which included administrative and technical procedures for the performance of electrical calculations and detailed training in the use of quality-assured computer calculations programs.

Correct application of protective devices, including fuses, will be performed as part of the long-term electrical calculations program.

**Revised CAP**

Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined in CATD 20501-NPS-04.

Correct application of protective devices, including fuses, will be performed as part of this program.

**Technical Justification**

The purpose of the long-term electrical calculations program is to ensure that calculations required to support the design and operating basis of the plant are performed and maintained. This has been adequately conveyed and documented in CATD 20501-NPS-04, and it is not necessary to repeat these requirements in CATD 23702-WBN-03. CATD 23702-WBN-03 will provide corrective action and documentation of the identified problem associated with the fifth diesel ERCW operator fuses.

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In addition, SCRWBNEEB8571SCA is not required to be closed for this CATD. The SCAR is presently being tracked as a Category 4 Action Item for CATD 20501-WBN-01 as documented in the memorandum from M. W. Alexander to W. L. Elliott dated March 9, 1995 (T36950309816).

**CATD 23702-WBN-04 (LEVEL IIa DEVIATION) - NO CALCULATIONS FOR SHORT CIRCUIT FUSE PROTECTION FOR MOTOR STARTER, CABLE, AND MOTOR**

CATD 23702-WBN-04 documents the issue that no calculations or other bases could be found to demonstrate that fuses provide adequate full range short circuit protection for motor starter, cable, and motor.

**Previously Approved CAP**

Problems regarding identification, performance, and revisions of electrical calculations were documented as a condition adverse to quality for Watts Bar in SCRWBNEEB8571. As part of corrective action and action to prevent recurrence for this SCR, EEB contracted for a long-term electrical calculations program which included administrative and technical procedures for the performance of electrical calculations and detailed training in the use of quality-assured computer calculations programs.

Calculations to demonstrate that fuses, where utilized, provide adequate full range short circuit protection for motor starter, cable, and motor will be performed as part of the long term electrical calculations program.

**Revised CAP**

Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined in CATD 20501-NPS-04.

Calculations to demonstrate that fuses provide adequate full range short circuit protection for motor starter, cable, and motor will be performed as part of this program.

**Technical Justification**

The purpose of the long-term electrical calculations program is to ensure that calculations required to support the design and operating basis of the plant are performed and maintained. This has been adequately conveyed and documented in CATD 20501-NPS-04, and it is not necessary to repeat these requirements in CATD 23702-WBN-04. CATD 23702-WBN-04 will provide corrective action and documentation of the adequacy of fuses used for circuit protection.



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In addition, SCRWBNEEB8571SCA is not required to be closed for this CATD. The SCAR is presently being tracked as a Category 4 Action Item for CATD 20501-WBN-01 as documented in the memorandum from M. W. Alexander to W. L. Elliott dated March 9, 1995 (T36950309816).

**CATD 23702-WBN-05 (LEVEL IIa DEVIATION) - NO NCR OR SCR TO  
REPORT CIRCUIT BREAKERS WITH TRIP SETTINGS**

CATD 23702-WBN-05 documents the issue that no NCR or SCR could be found to report identification of all circuit breakers with trip settings higher than permitted by criteria.

*NOTE: THIS CAP WAS REVISED A SECOND TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

This item was originally identified as part of the WBNP Black and Veatch review (finding F137 and Task Force Category 35). Evaluation of that finding by the TVA Black and Veatch Task Force determined that the finding had no significance to plant safety. Specifically, although instantaneous settings were higher than recommended settings, all loads required to perform a safety function would perform acceptably. Per the Black and Veatch Task Force guidelines, established as part of the review, all findings that did not degrade plant safety would be tracked by the Black and Veatch categories and all corrective action would be tracked by TVA's ECN process and would not require an NCR.

Per these guidelines all corrective action was tracked by Black and Veatch Category 35 and TVA ECN's 3904, 3905, and 4251. However, to ensure that all corrective action is acceptable, protective device calculations will be performed as a part of the Watts Bar long term calculation program which is a result of SCRWBNEEB8571.

**Revised CAP**

This item was originally identified as part of the WBNP Black and Veatch review (finding F137 and Task Force Category 35). Evaluation of that finding by the TVA Black and Veatch Task Force determined that the finding had no significance to plant safety. Specifically, although instantaneous settings were higher than recommended settings, all loads required to perform a safety function would perform acceptably. Per the Black and Veatch Task Force guidelines, established as part of the review, all findings that did not degrade plant safety would be tracked by TVA's ECN process and would not require an NCR.

Per these guidelines all corrective action was tracked by Black and Veatch Category 35 and TVA ECN's 3904, 3905, and 4251.

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Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined in CATD 20501-NPS-04.

Protective device calculations will be performed as part of this program.

**Technical Justification**

The purpose of the long-term electrical calculations program is to ensure that calculations required to support the design and operating basis of the plant are performed and maintained. This has been adequately conveyed and documented in CATD 20501-NPS-04, and it is not necessary to repeat these requirements in CATD 23702-WBN-05. CATD 23702-WBN-05 will provide corrective action and documentation of the adequacy of protective devices.

In addition, SCRWBNEEB8571SCA is not required to be closed for this CATD. The SCAR is presently being tracked as a Category 4 Action Item for CATD 20501-WBN-01 as documented in the memorandum from M. W. Alexander to W. L. Elliott dated March 9, 1995 (T36950309816).

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**CATD 23702-WBN-05 (LEVEL IIa DEVIATION) - NO NCR OR SCR TO  
REPORT CIRCUIT BREAKERS WITH TRIP SETTINGS**

CATD 23702-WBN-05 documents the issue that no NCR or SCR could be found to report identification of all circuit breakers with trip settings higher than permitted by criteria.

The need to initiate this CAP deviation was identified by the NRC.

*NOTE: THIS DEVIATION SUPERSEDED THE PREVIOUSLY SHOWN DEVIATION.*

**Previously Approved CAP**

This item was originally identified as part of the WBNP Black and Veatch review (finding F137 and Task Force Category 35). Evaluation of that finding by the TVA Black and Veatch Task Force determined that the finding had no significance to plant safety. Specifically, although instantaneous settings were higher than recommended settings, all loads required to perform a safety function would perform acceptably. Per the Black and Veatch Task Force guidelines, established as part of the review, all findings that did not degrade plant safety would be tracked by TVA's ECN process and would not require an NCR.

Per these guidelines all corrective action was tracked by Black and Veatch Category 35 and TVA ECN's 3904, 3905, and 4251.

Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined in CATD 20501-NPS-04.

Protective device calculations will be performed as part of this program.

**Revised CAP**

This item was originally identified as part of the WBNP Black and Veatch review (finding F137 and Task Force Category 35). Evaluation of that finding by the TVA Black and Veatch Task Force determined that the finding had no significance to plant safety. Specifically, although instantaneous settings were higher than recommended settings, all loads required to perform a safety function would perform acceptably. Per the Black and Veatch Task Force guidelines, established as part of the review, all findings that did not degrade plant safety would be

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tracked by the Black and Veatch categories and all corrective action would be tracked by TVA's ECN process and would not require an NCR.

Per these guidelines all corrective action was tracked by Black and Veatch Category 35 and TVA ECN's 3904, 3905, and 4251.

Electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed as part of the long term electrical calculations program as defined SCRWBNEEB8571SCA. Protective device calculations will be performed as part of this program. This SCRWBNEEB8571SCA will be tracked as part of CATD 20501-WBN-01.

**Technical Justification**

SCRWBNEEB8571SCA is not required to be closed for this CATD. The SCAR is presently being tracked as a Category 3 action item for CATD 20501-WBN-01 as documented in the memorandum from M. L. Elliott to A. P. Capozzi dated June 9, 1995.

It should also be noted that CATD 20501-NPS-04 documents the long-term electrical calculation program.

**CATD 30102-WBN-01 (LEVEL IIa DEVIATION) - CONTROL RELAY AND  
FIELD FLASH CABINETS NOT PROTECTED FROM DUST AND GRIT  
ENTRY**

CATD 30102-WBN-01 documents the issue that the following problems concerning D/Gs were noted: 1) Roof leaks above exhaust mufflers, 2) No MI exists for "Starting Air Dryers", 3) Temporary sample lines were connected to day tanks with no TACF, 4) Diesel fuel and lube oil leaks, 5) Morrison Knudsen recommendations concerning maintenance history reviews are not in D/G MIs, 6) No trending analysis program for root cause analysis of D/G failures exists, 7) The D/G room floors are not painted, and 8) The D/G control relay and field flash cabinets are not protected from dust and grit entry. (This CAP Deviation only applies to Item 8 of the problem description.)

**Previously Approved CAP**

Item 1: Upon further investigation it was found that water at the 1A-A exhaust leak-off connection was from a roof leak. A MR C097438 has been issued to stop the roof leak. For housekeeping considerations, light weight tubing will be routed from the exhaust leakoff connections to the floor drains.

Item 2: A Preventive Maintenance (PM) folder issued under the PM program would best suit this purpose. A PM will be written and scheduled by 05-01-87 for "starting air dryers".

Item 3: These temporary lines are connected, disconnected and documented as such in SI-4.0.5.18.P and on MR issued to do this in accordance with SI.

Item 4: The maintenance request program should repair any leaks identified. Mechanical Maintenance will issue maintenance requests (MRs) to repair any existing leaks by 03-20-87. Operations will be responsible for identifying future leakage and initiating MRs.

Items 5 and 6: The following procedures are in place at WBN to address these issues:

- 1) Site Standard Practice (SSP)-3.08, "Trend Analysis," implements the overall process, requirements, and responsibilities for the Trend Analysis Program for trending adverse conditions within the scope of the Nuclear Power Quality Assurance (QA) Program.
- 2) SSP-6.04, "Equipment History and Failure Trending," establishes a process for providing equipment maintenance history, trending, and Nuclear Plant

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Reliability Data System (NPRDS) programs to collect, store, and make available, failure and reliability data on safety-related, quality-related, and NPRDS reportable components.

- 3) SSP-12.09, "Incident Investigations and Root Cause Analysis," establishes the processes to identify events needing investigation, and perform root cause analysis.

Items 7 and 8: ECN 6366 was issued to resolve these problems by filtering supply air to the cabinets and using sealed dust covers over relays. It should be noted that the electrical panel problems that have been identified were in part due to panel doors being left open during testing while construction was continuing in and around the D/G Building; this will soon no longer be a factor to contend with. Item 2 of Table 9.1 of the SER dated June 1982 states that the NRC considers TVA to be in compliance with NUREG/CR-0660 concerning "dust and dirt in the diesel generator room." Painting of DG floors will be accomplished.

#### **Revised CAP**

Items 1-6 remain unchanged.

Items 7 and 8: ECN 6366 was issued to resolve these problems by filtering supply air to the cabinets and using sealed dust covers over relays. Although this did prevent dust and dirt from entering the cabinets, additional modifications were required for the voltage regulator to function properly. The removal of the K2-K3 relay module was necessary because of other problems inherent in the use of that specific relay module. CAQ WBP870427 was written to document the problem and DCN P-03328-A was issued to remove this relay module from the DGs required for Unit 1 operation and hard wired the Auto Voltage Regulator. This modification was tested during the Pre-operational Test of 1994 with no failures.

#### **Technical Justification**

Original CAP was not completely effective for the K2-K3 relay module.

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**CATD 30102-WBN-03 (LEVEL IIa DEVIATION) - PROBLEMS CONCERNING  
DIESEL/GENERATOR TESTING**

CATD 30102-WBN-03 documents the issue that the following problems concerning D/G testing were noted: 1) No formal reliability program to perform trending and root cause analysis of D/G failures exists, 2) No "valid start" documentation comparable to SQN SI-7.2 was found, 3) In the review of performance of SI-8.1, no graphic (such as strip charts) record of voltage or frequency data was found. The existing instruction allows human error and response time to influence test results, 4) Diesel oil and lube oil leaks were observed. 5) Unattended flammable absorbent pads were observed "in use" to soak up diesel fuel and oil.

*NOTE: THIS CAP WAS REVISED A SECOND TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

**PROBLEM DESCRIPTION - ITEM 1**

A task group will be formed to evaluate the adequacy of the WBN computerized data systems pertaining to maintenance activities. This task group will make recommendations to modify the systems in the area identified that would require enhancements and better utilize the system available.

The following items will be considered as a minimum:

1. Date input/output formats
2. File identifiers (for entry retrieval)
3. "Keyword" usefulness
4. Input/output procedures
5. Systems for assuring that needed files are computerized

This task group shall consist of at least members from maintenance sections and the Document Control Unit (DCU). Approved CAP deviation (L25910330800) states "Same as approved, except document control personnel was not included in the formulation of the task group."

**PROBLEM DESCRIPTION - ITEM 2**

SQN SI-7.2 was implemented to satisfy the requirement of the Technical Specification (TS) SR.4.8.1.1.4 and 4.8.1.2 reporting. There is now, and has been for a number of years, an informal D/G log at WBN which satisfies these TS requirements. However, this D/G log has not been a PORC reviewed document in the past. This document will be revised for technical adequacy and proper



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implementation and will be made a PORC reviewed document prior to January 1, 1988.

**PROBLEM DESCRIPTION - ITEM 3**

Technical Specifications (TS) LCO 3.8.1.1 action requires all diesel generators to be tested within one hour upon the failure of any part of the required electrical power source. This does not allow sufficient time to hook up M&TE equipment for normal surveillance testing. However, M&TE test equipment may be used during troubleshooting and other testing. We do not feel that M&TE equipment is necessary for normal surveillance testing at the present time.

**PROBLEM DESCRIPTION - ITEM 4**

OSLA-27 containing D/G routine inspection log which are completed each shift by Operations, this log sheet identifies any leak found on the D/G system or in the building. Maintenance requests are filled out and submitted to the maintenance section from these findings. AI-9.2 covers the method of processing maintenance requests Mechanical Maintenance will issue MRs on any existing leaks by 03-20-87.

**PROBLEM DESCRIPTION - ITEM 5**

This item was discussed with the Industrial Safety group. The use of absorbent pads is an approved method of absorbing oils and grease, and there is no requirement for them to be constantly attended. The DG Building is protected by an automatically actuates CO2 fire protection system, when this system is removed from service for any reason a full time fire watch is posted in the bldg.

**Revised CAP**

Same as approved, except implement reliability program. NOTE that WBN's SI was formerly SI-82-40 and is now recognized as O-SI-82-9. Please note that OSLA-27 is now GOI-8 and AI-9.2 is SSP-6.2.

**Technical Justification**

The original approved CAP was a portion of a reliability program. Section 2.6 and 2.7 is a portion of the reliability program. WBN has implemented PAI-11.01 on June 17, 1994. Part of the reliability program is a monthly SI O-SI-82-11-A; 11-B; 12-A; 12-B which will maintain recordkeeping to meet the objective. As a part of the reliability program, MI-82-001 has attributes to check for leaks.

**CATD 30102-WBN-03 (LEVEL IIa DEVIATION) - PROBLEMS CONCERNING  
DIESEL/GENERATOR TESTING**

CATD 30102-WBN-03 documents the issue that the following problems concerning D/G testing were noted: 1) No formal reliability program to perform trending and root cause analysis of D/G failures exists, 2) No "valid start" documentation comparable to SQN SI-7.2 was found, 3) In the review of performance of SI-8.1, no graphic (such as strip charts) record of voltage or frequency data was found. The existing instruction allows human error and response time to influence test results, 4) Diesel oil and lube oil leaks were observed. 5) Unattended flammable absorbent pads were observed "in use" to soak up diesel fuel and oil.

*NOTE: THIS DEVIATION SUPERSEDED THE PREVIOUSLY SHOWN DEVIATION.*

**Previously Approved CAP**

**PROBLEM DESCRIPTION - ITEM 1**

A task group will be formed to evaluate the adequacy of the WBN computerized data systems pertaining to maintenance activities. This task group will make recommendations to modify the systems in the area identified that would require enhancements and better utilize the system available.

The following items will be considered as a minimum:

1. Date input/output formats
2. File identifiers (for entry retrieval)
3. "Keyword" usefulness
4. Input/output procedures
5. Systems for assuring that needed files are computerized

This task group shall consist of at least members from maintenance sections and the Document Control Unit (DCU). Approved CAP deviation (L25910330800) states "Same as approved, except document control personnel was not included in the formulation of the task group."

**PROBLEM DESCRIPTION - ITEM 2**

SQN SI-7.2 was implemented to satisfy the requirement of the Technical Specification (TS) SR.4.8.1.1.4 and 4.8.1.2 reporting. There is now, and has been for a number of years, an informal D/G log at WBN which satisfies these TS requirements. However, this D/G log has not been a PORC reviewed document in the past. This document will be revised for technical adequacy and proper

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implementation and will be made a PORC reviewed document prior to January 1, 1988.

**PROBLEM DESCRIPTION - ITEM 3**

Technical Specifications (TS) LCO 3.8.1.1 action requires all diesel generators to be tested within one hour upon the failure of any part of the required electrical power source. This does not allow sufficient time to hook up M&TE equipment for normal surveillance testing. However, M&TE test equipment may be used during troubleshooting and other testing. We do not feel that M&TE equipment is necessary for normal surveillance testing at the present time.

**PROBLEM DESCRIPTION - ITEM 4**

OSLA-27 containing D/G routine inspection log which are completed each shift by Operations, this log sheet identifies any leak found on the D/G system or in the building. Maintenance requests are filled out and submitted to the maintenance section from these findings. AI-9.2 covers the method of processing maintenance requests Mechanical Maintenance will issue MRs on any existing leaks by 03-20-87.

**PROBLEM DESCRIPTION - ITEM 5**

This item was discussed with the Industrial Safety group. The use of absorbent pads is an approved method of absorbing oils and grease, and there is no requirement for them to be constantly attended. The DG Building is protected by an automatically actuates CO2 fire protection system, when this system is removed from service for any reason a full time fire watch is posted in the bldg.

Implement reliability program. NOTE that WBN's SI was formerly SI-82-40 and is now recognized as O-SI-82-9. Please note that OSLA-27 is now GOI-8 and AI-9.2 is SSP-6.2.

**Revised CAP**

ITEMS 1-4 unchanged.

**PROBLEM DESCRIPTION - ITEM 5**

The housekeeping program of SSP-12.07 requires that such pads be picked up after the completion of the job or at the end of a shift whichever comes first. This SSP also provides for periodic management inspections to ensure proper housekeeping is maintained. This SSP already addresses this issue.

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Implement reliability program. NOTE that WBN's SI was formerly SI-82-40 and is now recognized as O-SI-82-9. Please note that OSLA-27 is now GOI-8 and AI-9.2 is SSP-6.2.

**Technical Justification**

SSP-12.07 is the housekeeping program which requires that such pads be picked up after the completion of a task or the end of a shift whichever comes first. This is applicable to other plant areas without automatic suppression systems. Attachment 1 lists Area 28 (D/G bldgs) is to be inspected. Section 2.1.1.E requires a monthly inspection be performed using App A. Item 2 of App A requires notification of Operations and applicable maintenance group to ensure floors are cleared of accumulation of oil leaks. Section 2.2.E states to notify Shift Operations Supv. (SOS) of equipment problems such as oil leaks.

Other plant areas without automatic suppression systems do not require continuous fire watch. Diesel Generator Building Fire Protection Plan is described in section 14.3, 14.4 (pages II-50, II-51) of the Plan. Housekeeping ensures "oil soak pads" will be removed. The amount of oil that can be absorbed into an oil absorbent pad is "minor" in rooms such as the DG relative to the site combustible loading (e.g., cable insulation).

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**CATD 30114-WBN-01 (LEVEL IIb DEVIATION) - EVALUATION OF CONCERNS ON A56/A57 AIRLOCK**

CATD 30114-WBN-01 documents the issue of the evaluation of concerns on the A56/A57 airlock at WBN and SQN. Please provide verification and schedule for action planned or taken to place this airlock system into safe operation at WBN only.

*NOTE: THIS CAP WAS REVISED A SECOND TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

- A. Design Change Request (DCR) number WB-DCR-0682 was approved November 14, 1986 to execute the modification to doors A56 and A57. Modifications to doors will be completed with Group 6 in current fuel load milestone schedule.  
  
A56:  
Redesign to make flush bolt at top and bottom of the door stronger.  
A57:
  - 1. Replace the wire type limit switch arms and brackets with lever type arms and brackets - furnished by Overly Door Co. (original contractor).
  - 2. Install swivel type connections in the air supply air hose to the operator cylinders - furnished by Overly Door Co.
  - 3. Install an additional oiler in the air line on the wall outside of the box closer to both door operator cylinders and the locking dog cylinders - purchased by TVA.
  - 4. Add a personnel door to the inactive leaf of door - Contract.
  - 5. Add vertical support for operator air cylinder.
- B. Work plan NP-1109-1 installed a warning horn to sound when door A57 is moving and a safety edge to stop movement if pressed.
- C. A hazard assessment #NM-002-87 was done by Industrial Safety on a possible pinch point between the hinge side of door A57 and the door frame and was determined remote as an accident probability.
- D. Made misalignment corrections to door A-57 to within 1/4" tolerance overall, as suggested in letter No. 4104 from Overly Manufacturing Company to TVA.

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**Revised CAP**

A. Remains unchanged from approved CAP.

A56: Implement W-28631-A

A57:

1. Same
2. Implement DCN P-00904-A
3. Implement DCN P-00904-A
4. Same
5. Implement DCN P-00904-A

B. Implement DCN P-00904-A

C. Remains unchanged from original approved CAP. However, the assessment number is #MM-002-87 and not NM-102-87.

D. Remains unchanged from original approved CAP.

**Technical Justification**

Top flush bolts did not require strengthening due to existing door jam. Bottom flush bolt was strengthen by door 2 stop per W-28631-A.

As outlined in DCN P-00904-A, the justification for replacing the pneumatically operated active leaf of door A57 with a manually operated active leaf is to eliminate the considerable amount of maintenance required to maintain door A57 in at least a marginally operational condition. In addition, replacing the active leaf would eliminate the danger due to the sequence of operation required to open the pneumatically operated doors. These changes do not effect the operation of the door.

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**CATD 30114-WBN-01 (LEVEL IIb DEVIATION) - EVALUATION OF CONCERNS ON A56/A57 AIRLOCK**

CATD 30114-WBN-01 documents the issue of the evaluation of concerns on the A56/A57 airlock at WBN and SQN. Please provide verification and schedule for action planned or taken to place this airlock system into safe operation at WBN only.

*NOTE: THIS CAP WAS REVISED A THIRD TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

- A. Design Change Request (DCR) number WB-DCR-0682 was approved November 14, 1986 to execute the modification to doors A56 and A57. Modifications to doors will be completed with Group 6 in current fuel load milestone schedule.  
  
A56:  
Implement W-28631-A.  
A57:
  - 1. Replace the wire type limit switch arms and brackets with lever type arms and brackets - furnished by Overly Door Co. (original contractor).
  - 2. Implement DCN P-00904-A.
  - 3. Implement DCN P-00904-A.
  - 4. Add a personnel door to the inactive leaf of door - Contract.
  - 5. Implement DCN P-00904-A.
- B. Implement DCN P-00904-A.
- C. A hazard assessment #NM-002-87 was done by Industrial Safety on a possible pinch point between the hinge side of door A57 and the door frame and was determined remote as an accident probability. However, the assessment is #MM-002-87 and not NM-002-87.
- D. Made misalignment corrections to door A-57 to within 1/4" tolerance overall, as suggested in letter No. 4104 from Overly Manufacturing Company to TVA.

**Revised CAP**

- A. Remains unchanged from approved CAP. With the exception of Group 6 is now area turnover.

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A56: Same

A57:

1. Implement DCN P-00904-A
2. Same
3. Same
4. Implement DCN P-00904-A
5. Same

B. Same

C. Same

D. Same

**Technical Justification**

The DCN relocated the limit switch.

The personnel door was installed in the active leaf and not the inactive leaf. This was completed per DCN P-00904-A.



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**CATD 30114-WBN-01 (LEVEL IIb DEVIATION) - EVALUATION OF CONCERNS ON A56/A57 AIRLOCK**

CATD 30114-WBN-01 documents the issue of the evaluation of concerns on the A56/A57 airlock at WBN and SQN. Please provide verification and schedule for action planned or taken to place this airlock system into safe operation at WBN only.

*NOTE: THIS DEVIATION SUPERSEDED THE PREVIOUSLY SHOWN DEVIATIONS.*

**Previously Approved CAP**

- A. Design Change Request (DCR) number WB-DCR-0682 was approved November 14, 1986 to execute the modification to doors A56 and A57. Modifications to doors will be completed with area turnover schedule.  
  
A56:  
Implement W-28631-A.  
A57:
  - 1. Implement DCN P-00904-A.
  - 2. Implement DCN P-00904-A.
  - 3. Implement DCN P-00904-A.
  - 4. Implement DCN P-00904-A.
  - 5. Implement DCN P-00904-A.
- B. Implement DCN P-00904-A.
- C. A hazard assessment #NM-002-87 was done by Industrial Safety on a possible pinch point between the hinge side of door A57 and the door frame and was determined remote as an accident probability. However, the assessment is #MM-002-87 and not NM-002-87.
- D. Made misalignment corrections to door A-57 to within 1/4" tolerance overall, as suggested in letter No. 4104 from Overly Manufacturing Company to TVA.

**Revised CAP**

- A. None required.  
  
A56: Implement FDCN F-36835.  
A57:
  - 1. Same

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2. Same
3. Same
4. Same
5. Same

B. Same

C. Same

D. Implement DCN P-00904-A.

**Technical Justification**

The corrective actions listed in DCR number WB-DCR-0682 is replaced by the corrective action of DCN P-00904-A and FDCN F-36835. Modifications to doors are complete. The design for door A57 through DCN P-00904-A and with the flush bolts being addressed and corrected for A56 door by FDCN F-36835, WB-DCR-0682 is no longer needed. The change of corrective actions from WB-DCR-0682 to DCN P-00904-A and FDCN F-36835 does not change the intent of the concern resolution.

DCN W-28631-A was written to address replacement hardware for Non-Appendix R doors. This W DCN was used only for the base DCN for FDCN F-36835 to be written against. Therefore, W-28631-A does not require closure for disposition of hardware on door A56.

This DCN requires testing of the door to ensure operability. In addition to specified tests acceptance, the ABSCE ensures the pressure boundary is functional.

**CATD 30115-WBN-01 (LEVEL IIa DEVIATION) - DEFICIENCIES WITH  
COMPONENT IDENTIFICATION AND TAGGING**

CATD 30115-WBN-01 documents the issue that deficiencies with component identification and tagging have been identified at WBN as evidenced by previous audits, NCRs, and walkdowns. Provide details for determining the extent of missing and/or incorrect tags and corrective action plans. The corporate configuration manager, Division of Nuclear Services, has been notified by CATD to address data base deficiencies related to unique identifiers.

**Previously Approved CAP**

The detailed and comprehensive program necessary to fully identify and correct the deficiencies with component identification and tagging is being developed but is not finalized at this time. A major input to the problem identification effort is underway as part of the Q-List effort. The Q-List activity is determining areas where component identification numbers on drawings need to be changed, deleted, or added for completeness and consistency.

Gilbert Commonwealth has reviewed over 1,000 drawings to evaluate the baseline drawings. Discrepancies are now being resolved with about 32 systems in various stages of completion according to the project manager. Discrepancies identified on the drawings will be corrected by the established SCN process and revised drawings issued. The Q-List will be revised for consistency. The schedule for completion of the Q-List is BFL. For additional information see NCR W-269-P, (TROI tracking number W-269-P and CCTS tracking number: NCO85051 and NCO85012).

Some of the recognized, expected impacts from the issuing of revised drawings includes the changing of tags in the field to reflect the revised drawings.

The process was discussed with Site Personnel in meetings on Feb. 6 and Feb. 10, 1987. Walkdowns will identify equipment needing tagging, but not shown on drawings. Drawings will be revised, identifiers assigned, and tags prepared. The scope, schedule, and interface for this effort is not defined at this time. Several phases are expected in the process to ensure the field confirmation is in agreement with the system drawings.

In addition, the project manager for the equipment tagging effort is communicating with personnel in the Central Office responsible for Configuration Management. See the draft ONP Policy 4.3 concerning configuration management. Also see

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30115-NPS-01 for further discussion of drawing/data base discrepancies. The program being developed for Watts Bar will meet the intent of the policy.

The current schedule for completion is as follows:

- 1) Discrepancies between drawings will be resolved before Unit 1 fuel loading. The Q-List will also be made consistent with the revised drawings. Classification of components for the Q-List shall also be completed.
- 2) The impacts have not been fully evaluation and therefore the schedule and resources necessary have not been finalized.

### **Revised CAP**

Develop a comprehensive tagging program to insure that plant components are consistently identified (# assigned) and properly tagged prior to system turnover.

### **Technical Justification**

The approved CAP was a preliminary description that was intended to be completed at a later time. It states that the scope, schedule, and interfaces for the effort were not defined and had not been finalized. Therefore, the plan was incomplete and not ready to be implemented.

The proposed CAP is based on the approved plans to implement an Operations Labeling Program that is currently underway. The approved program and the system turnover process provide documented evidence that this employee concern is being appropriately addressed.

The approved CAP tied the tagging concern to the Q-List concerns identified in NCR W-269-P and several related NCO's. The Q-List CAP, NCRW269PSCA, and NCO850512001 through NCO850512008 have been closed as documented in TROI with copies available in RIMS. However, these close-out documents did not fully address the tagging concern raised by this employee concern.

WBN's tagging program is defined in SSP-2.52, "Replacement and Upgrade of Plant Component Identification Tagging and Labeling." This program is being implemented by the Operations department at WBN on a system-by-system basis. It is subsequently checked in accordance with PAI-5.01, "System Pre-Operability Checklist," prior to system turnover.

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Nuclear Assurance has been performing assessments on component identification, labeling, and tagging at WBN. Examples include: NA-WB-93-0065, "Assessment of Q-List CAP Issues," NA-WB-94-084, "U1/U2 Interface and Equipment Labeling/Tagging," and NA-WB-95-064, "SPOC/SPAE of System 236 - 125 Vdc Vital Power,"

In summary, the existing WBN tagging program and system turnover process are addressing this employee concern. Assessments have been and will continue to be performed to check the adequacy of these programs. Recurrence control is addressed by the design change process defined in SSP-9.52 and related implementing procedures, the component labeling process in SSP-2.52, and the drawing deviation program in SSP-2.11. Therefore, the proposed CAP provides a more comprehensive corrective action plan than the approved CAP, and it accomplishes this by using existing programs and processes.

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**CATD 30302-WBN-01 (LEVEL IIb DEVIATION) - REPLACEMENT OF COLD  
LEG ACCUMULATOR LEVEL TRANSMITTERS**

CATD 30302-WBN-01 documents the issue that DCR 633 for replacement of the cold leg accumulator level transmitters and DCR 678 for replacement of the refueling water storage level transmitters have not been implemented. Completion of these modifications is a requirement before fuel load (unit 1).

**Previously Approved CAP**

Tracking only of DCR 633 and DCR 678. During closeout ensure CAQR initiated.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP has not changed. The CAP was missing required approval signature of the ECTG Manager.

**CATD 30501-WBN-03 (LEVEL IIb DEVIATION) - RELOCATION OF  
ACCUMULATOR UPPER LEVEL TRANSMITTERS**

CATD 30501-WBN-03 documents the issue that the accumulator upper level transmitters are to be relocated and a piping modification for the SIS/RHR/UHI letdown tests has been proposed. Please provide verification for these activities (ECN, etc.) and the schedule for implementation.

**Previously Approved CAP**

DCR 633 has been issued and approved by the CCB (change Control Board) for replacement of the safety injection system accumulator level sensing system. (Ref: B26 860811016 and B26 860507 014) DCR 633 initially requested that the transmitters simply be relocated to a more accessible area to reduce personnel radiation exposure during calibration. However, to further reduce radiation exposure, the original level sensing system utilizing differential pressure sensors and filled capillary sense lines routed to a locally mounted level transmitter will be replaced. The new level sensing system will be a resistance temperature detector (RTD) type utilizing remote electronics. Nuclear Engineering will issue DCN M-00278-B for the design change and modifications will implement the level sensing system changeout. Westinghouse concurrence with the change is provided in letter WAT-D-8494 (B26 910404 300).

**Revised CAP**

DCR 633 has been issued and approved by the CCB (change Control Board) for replacement of the safety injection system accumulator level sensing system. (Ref: B26 860811016 and B26 860507 014) DCR 633 initially requested that the transmitters simply be relocated to a more accessible area to reduce personnel radiation exposure during calibration. However, to further reduce radiation exposure, the original level sensing system utilizing differential pressure sensors and filled capillary sense lines routed to a locally mounted level transmitter will be replaced. The new level sensing system for each accumulator will have a resistance temperature detector (RTD) type sensing system utilizing remote electronics (DCN M-00278-B), and a Rosemount transmitter (DCN M-27528-B) utilizing process fluid filled sense line piping routed to it. Instruments will be mounted in locations lower in radiation, and/or more accessible, than the original instrument locations.

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**Technical Justification**

During plant testing, problems were found with the response time of instruments installed for DCN M-00278-B. The slow response time of these instruments made water level maintenance of the accumulators difficult. Due to the essentially 100% humidity environment, the heaters in the instruments took too long to dry out the sensing elements. This is not a problem when this type instrument is used in conjunction with a Rosemount transmitter style instrument. On each accumulator, one of the RTD style instruments has been replaced with a Rosemount transmitter style instrument. These two systems compliment each other. The Rosemount transmitters have been installed in the raceway versus the accumulator rooms where the original instruments were mounted.



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**CATD 31105-WBN-05 (LEVEL IIb DEVIATION) - NEW INTERFACING OF SIS  
ACCUMULATOR INSTRUMENTATION**

CATD 31105-WBN-05 documents the issue that a new interfacing of SIS accumulator instrumentation being designed by Westinghouse will reduce safety hazards, save man-hours, and reduce exposure as described in WB-DCR 633. This CATD was initiated to track the closure of DCR 633.

**Previously Approved CAP**

Closure of DCR 633 will adequately address the concern in ECSP Report Number 311.05-WBN.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP has not changed. The CAP was missing the required approval signature of the ECTG Manager.

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**CATD 40400-WBN-03 (LEVEL IIa DEVIATION) - POWER STORES DID NOT MAINTAIN PROTECTIVE COVERS AND SEALS**

CATD 40400-WBN-03 documents the issue that Power Stores did not maintain appropriate protective covers and seals as required by applicable procedures.

**Previously Approved CAP**

Reference memorandum to Don F. Bailey from Ron Borum dated February 11, 1987.

"As of June 30, 1986, Power Stores has been above the requirements of A1 5.6, Par. 3.4.4 with regards to the storage of austenitic stainless steel fittings. After that date, all austenitic stainless steel products have been protected by measures such as end caps, plugs or seals on the item openings or by placing in approved containers. Prior to that date, it was felt that since such products were stored indoors which had rodent and insect control programs this was sufficient."

I will incorporate language into A1 5.6 revision 13 which will change storage instructions paragraph 7.21 sub part 1 to read as follows: "all austenitic stainless steel products are to be protected by measures such as placing end caps, plugs or seals on the item openings or by placing in approved containers." This revision is expected to be complete by 4/1/87.

"As a footnote, please be advised that the DNE Materials Branch (Kirk Cooper) is undertaking a test with Singleton Labs at this time to see if this much conservatism is required, so the program might be relaxed in the future. We plan to keep the aforementioned provisions in place until it can be proven conclusively that there is no detrimental affect for leaving them unprotected."

**Revised CAP**

SSP 10.03 will incorporate the upper tier requirement(s) for pipe/tube capping as stated in the TVA Nuclear Quality Assurance Plan (NQAP).

**Status Note:**

SSP 10.03 Revision 18 CN-2, section 2.2.2 states:

"Cap or plug tubing and piping materials while in storage unless specified otherwise by engineering specification. If stored indoors, these materials do not need to be capped or plugged."

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The procedure is source noted as follows:

- 69. TVA-NQAP-PLN89-A, App. B, page 13, para. 4.
- 74. CATD 40400-WBN-03
- 75. CATD 40400-WBN-04

### Technical Justification

The controlling upper tier requirement for WBN is stated in TVA-NQAP-PLN89-A, Revision 5, as follows:

Appendix B, page 13, NRC Reg. Guide 1.38, paragraph 4;  
NRC Regulatory Guide 1.38 - "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants,"  
Revision 2, 5/77 endorses ANSI N45.2.2 - 1972.

The NQAP follows this Guide with the following alternatives:

- 4. Tubing and piping materials shall have end caps or plugs while in storage unless specified otherwise by engineering specifications. End caps or plugs are not mandatory on tube or pipe fittings provided the requirements of TVA internal procedures to store under cover with protection from the elements are met. These materials are required to be in visually clean condition and free of visually detectable defects prior to installation.

The original corrective action was not based on the appropriate upper tier requirements.

As a result of the Materials Improvement Project (initiated 6/91), all piping was reviewed for proper storage. No materials were found to be damaged due to improper storage. Since that time, various QC storage inspections have been conducted and documented showing full compliance to the procedure on this issue.

The Materials and Inspection Department has evaluated the use of endcaps during the storage of austenitic stainless steel piping and tubing in both outdoor and indoor environments. The evaluation concluded that endcaps shall be used when storing piping and tubing outside in order to prevent moisture intrusion, in addition to halide, sulfide, and organic contaminants that may come in contact with the inside diameter from various external sources. However, the use of endcaps are not mandatory when storing piping and tubing indoors. This provision is stated in Process Specification 4.M.1.1 of G29 Part B, "Material Fabrication and Handling Requirements for Austenitic Stainless Steels." The technical justification for this position is that indoor environments are essentially

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“controlled” environments whereby good housekeeping is generally employed, and humidity and temperature is regulated in accordance with site standard practice storage level requirements. Also, the probability of contamination from external sources is greatly diminished because warehouse and power stores practices control access to materials inventories for use in various plant applications. Based on this justification, the use of endcaps is not mandatory for indoor storage.

**CATD 80109-WBN-02 (LEVEL IIb DEVIATION) - DEVELOP REQUIREMENTS MATRIX**

CATD 80109-WBN-02 documents the issue that WBN Site Quality Organization has committed to verify program compliance to Topical Report referenced ANSI standards, by development of Matrices. The matrices contain line by line requirements from the ANSIs rolled down into site implementing procedures.

This CATD is issued to track completion of above and to record corrective action required to assure compliance. Reference: Licensing Transmittal to NRC-Summary and concurrence sheet, dated June 9, 1987.

**Previously Approved CAP**

Status Response - CATD #80109-WBN-02 is also tracked thru the CCTS control number NCO-87-0193-001 which identified an NRC IE inspection 350/87-05-01. Commitment action to this control number is tied to an CAQR WBP870266P and has an administrative completion schedule of 9/1/87 for completion of the ANSI roll down matrix. In addition to the above, the ANSI roll down matrix has been committed to DNQA audit deviation QWB-A-87-0015-D02.

**Revised CAP**

- I. Complete ANSI Matrix. This will consist of the following:
  - A. Action statements, statements which use the terms must, shall, will, or should, from applicable ANSI standards endorsed in Appendix B to the Nuclear Quality Assurance Plan will be cataloged in a data base.
  - B. The implementation of the requirements will be verified.
  - C. Based on the results of the verification, the implementing document will also be cataloged in the data base.
  - D. The requirements will also have to be source noted or referenced in the implementing document. This will also be cataloged in the data base. The only exception to this will be where a requirement is implemented in a corporate level document and the corporate document refers to or source notes the NQAP. Source noting or referencing of the specific requirement will not be required.
- II. Verification of the implementation of commitments made to standards in the FSAR. This verification will ensure that the statement in the FSAR to a standard or portion of a standard is implemented (within the context of the

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statement from the FSAR) in an appropriate document. This will not be a line for line verification of each standard.

- III. Closure of WBFIR930038.
- IV. The implementation of the above actions will result in the identified set of ANSI requirements being either source noted or referenced in implementing documents. The procedural requirements currently implemented which control the revision process for each type of implementing document will serve to maintain compliance with the ANSI requirements. The data base which catalogs the ANSI requirements will be maintained by Site Licensing until fuel load for unit 1. At this point, the requirements of 10 CFR 50.59 will serve to ensure that appropriate changes to the implementing documents occur.

**Technical Justification**

The concern captured in CATDs 80109-WBN-02 and 80109-WBN-03 was that there was no adherence to codes and standards. This concern is addressed by the proposed CAP in that the proposed corrective action:

- 1. Establishes a matrix which documents implementation of the standards endorsed in the NQAP.
- 2. Provides assurance that statements regarding standards in the FSAR are implemented.
- 3. Closes other outstanding open items associated with the CATDs.

Note that only one closure package will be produced, since the proposed CAP addresses both 80109-WBN-02 and 80109-WBN-03.

**CATD 80109-WBN-03 (LEVEL IIb DEVIATION) - DEVELOP REQUIREMENTS MATRIX**

CATD 80109-WBN-03 documents the issue that the WBN Design Baseline and Verification Project (DBVP) has committed to develop a cross-referencing Matrix between each ANSI commitment and the highest level design document which implements the commitment. This Matrix will be used during the design change process to lead the designer to any affected licensing commitments..

This CATD is issued to track completion of above and to record corrective action required to assure compliance. Reference: Licensing Transmittal to NRC - Summary and Concurrence Sheet, dated June 9, 1987.

**Previously Approved CAP**

The WBN Design Baseline and Verification Project (DBVP) will develop a cross-referencing matrix between each ANSI commitment and the highest level design document which implements the commitment. This matrix will be used during the design change process to lead the designer to any affected licensing commitments. This activity is being tracked under CCTS item NCO-87-0193-009. The administrative completion date for this activity is 7/31/88.

**Revised CAP**

- I. Complete ANSI Matrix. This will consist of the following:
  - A. Action statements, statements which use the terms must, shall, will, or should, from applicable ANSI standards endorsed in Appendix B to the Nuclear Quality Assurance Plan will be cataloged in a data base.
  - B. The implementation of the requirements will be verified.
  - C. Based on the results of the verification, the implementing document will also be cataloged in the data base.
  - D. The requirements will also have to be source noted or referenced in the implementing document. This will also be cataloged in the data base. The only exception to this will be where a requirement is implemented in a corporate level document and the corporate document refers to or source notes the NQAP. Source noting or referencing of the specific requirement will not be required.
- II. Verification of the implementation of commitments made to standards in the FSAR. This verification will ensure that the statement in the FSAR to a standard or portion of a standard is implemented (within the context of the

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statement from the FSAR) in an appropriate document. This will not be a line for line verification of each standard.

- III. Closure of WBFIR930038.
- IV. The implementation of the above actions will result in the identified set of ANSI requirements being either source noted or referenced in implementing documents. The procedural requirements currently implemented which control the revision process for each type of implementing document will serve to maintain compliance with the ANSI requirements. The data base which catalogs the ANSI requirements will be maintained by Site Licensing until fuel load for unit 1. At this point, the requirements of 10 CFR 50.59 will serve to ensure that appropriate changes to the implementing documents occur.

**Technical Justification**

The concern captured in CATDs 80109-WBN-02 and 80109-WBN-03 was that there was no adherence to codes and standards. This concern is addressed by the proposed CAP in that the proposed corrective action:

- 1. Establishes a matrix which documents implementation of the standards endorsed in the NQAP.
- 2. Provides assurance that statements regarding standards in the FSAR are implemented.
- 3. Closes other outstanding open items associated with the CATDs.

Note that only one closure package will be produced, since the proposed CAP addresses both 80109-WBN-02 and 80109-WBN-03.



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**CATD 80209-WBN-01 (LEVEL IIb DEVIATION) - RESOLVE SIX  
NONCONFORMING CONDITIONS DURING REINSPECTION OF  
PREVIOUSLY ACCEPTED CONDUITS**

CATD 80209-WBN-01 documents the issue that NCR No. 6464 issued 11/15/85 to resolve six nonconforming conditions noted during reinspection of previously accepted conduits - NCR remains open as of the date of this CATD. Reference: PH-85-014-002

**Previously Approved CAP**

NCR 6464 will be resolved as described in the corrective action block of the NCR. The NCR will be tracked in TROI under number WBN6464, while corrective actions are in progress and until completed.

Note: Per phone conversation of February 9, 1987 with E. T. Albee, the problem description was prepared because he was unsure how the NCR could be tracked to closure.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

**CATD 80213-WBN-01 (LEVEL IIb DEVIATION) - CABLES WERE PULLED WITHOUT A RESPONSIBLE ENGINEER PRESENT**

CATD 80213-WBN-01 documents the issue that Quality Assurance Audit Report WB-E-79-05 documents that cables 1-4V-67-3043-B, 1-4V-67-3028-B, 1-4V-67-3051-B, 1-4PL-215-4985-B, and O-5PP-82-591-B were pulled without a responsible engineer present. This violated Quality Control Procedure 3.5, Rev. 7. The recommended corrective action was to ensure each cable pulling crew is assigned a responsible engineer before the pull is started. The recommended corrective action does not address the above cables, as their acceptability is indeterminate by being installed in this manner.

**Previously Approved CAP**

This proposed corrective action should be considered as Revision 1 to CATD 80213-WBN-01. Contrary to the previous report, only one of the five subject cables has been completely repulled. The cable that was repulled is 1-4V-67-3028-B. Also note that after this cable was repulled in 1980, this cable was reworked and the satisfactory reinstallation was documented by noting "Reinstallation OK" on August 3, 1982 (see the bottom of page 1, Exhibit A for Construction Documentation requirements for cable pulling rework). Misinterpretation of these documentation requirements in Revision 0 of this report was the reason for erroneously reporting that three other cables had been repulled. Of the remaining cables (O-5PP-82-591-B, 1-4V-67-3051-B, and 1-4V-67-3043-B) existing documentation shows that these three cables have been reworked but not replaced. Cable 1-4PL-215-4985 has no evidence of any rework. Although the signature of the responsible engineer or inspector implies that they verified that proper methods were used during the cable pull, the audit report indicates that the responsible inspector was not in attendance. Exhibit C contains test data to show that each of these cables have been in service for several years. Examples include Test 6-64 (insulation resistance test), and SI-8.1 (Diesel Generator Start and Load Test) for cable O-5PP-82-591-B, test 75 (Control Circuit Functional Tests) for 1-FCV-67-134 & 138, and two examples of SI-4.0.5.67a (Valve Full Stroke Exercising) for cables 1-4V-67-3051-B and 1-4V-67-3043-B. Cable 1-4PL-215-4985-B is the feeder cable for Motor Control Center (1-MCC-215-82) in the DG building and has been in operation as long as the diesel generators. Also, examples of loads that are powered from this MCC can be found in the diesel generator building local shift log. Additionally, TVA at WBN has recognized that there is a possible problem with all cables concerning bend radius and sidewall pressure. This condition is documented with NCRs 6295, 6270, and W-290-P. These NCRs identified bend radius problems at specific points but DNE expanded them to include cable bend radius in all plant areas and NCR 6270 addresses cable sidewall

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pressure. DNE is currently working on the disposition to these problems. No further action is required.

### **Revised CAP**

Cables 1-4V-67-3043-B, 1-4V-67-3028-B, 1-4V-67-3051-B, 1-4PL-215-4985-B, and 0-5PP-82-591-B shall be specifically evaluated for acceptability based on the installed configuration or verification of cable segment replacement will be confirmed.

Initially, each cable will be researched to identify cable segments that have been replaced. The remaining cable segments will be walked down, sketched, and submitted to Nuclear Engineering for evaluation based on the installed configuration. This evaluation will substantiate that the installed cables meet the requirements of G-38, section 3.2.

The records identified by Quality Assurance Report WB-E-79-05 will be supplemented to reference CATD 80213-WBN-01.

### **Technical Justification**

The concern documents that cable pulls were performed without a responsible engineer present. This violated QCP-3.5, revision 7 which states, "A responsible engineer shall be assigned to each pulling crew to witness the cable installation for the purpose of verifying that the maximum pull tension was not exceeded, that the minimum bend radius was not violated, and that all aspects of the pulling operation are satisfactory."

#### **Extent of Condition Evaluation:**

The Cable Issues CAP will address problems similar to the items described within this document. The CAP was initiated based on various employee concerns, conditions adverse to quality (CAQ) documents, and Nuclear Regulatory Commission (NRC) findings related to cable installation and routing.

These concerns identify conditions for safety-related cables that are adverse to quality because of a lack of analysis or documentation that would demonstrate their acceptability. However, these conditions alone did not necessarily mean that the cable installations were unacceptable.

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As-installed cables may still comply with the technical requirements of the applicable codes, standards and licensing commitments. The implementation of this CAP will confirm the acceptability of the installations and complete the necessary corrective actions.

The objective of the CAP is to ensure that the safety-related (Class 1E) cables will perform their intended functions adequately and will comply with the licensing requirements and design basis documents. The as-installed cables will be shown to be adequate or will be reworked.

No additional extent of condition is required for this document.

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**CATD 80605-WBN-02 (LEVEL IIb DEVIATION) - CODE VIOLATIONS**

CATD 80605-WBN-02 documents the issue that form N-5 Data Report (TVA-1-64-2/3/MC-F1) was issued for WBN Unit #1 November 6, 1984, based on NCR 5609 disposition of "Use-as-is". NCR 6420 issued October 28, 1985 readdressed the same Code violations for WBN Unit #2 and was dispositioned to perform pressure test per ASME Codes. This disposition contradicts NCR 5609 disposition yet fails to address Unit #1 penetrations and N5 Certification.

The WBN Unit 1, N-5 Data Report certifies compliance with the ASME Code with no exceptions. Yet NCR 6420 identified a Non-code compliance for WBN Unit 2 which was previously identified for Unit 1 on NCR 5609 and therefore should be applicable for WBN Unit #1. This noncompliance condition is in contradiction with the compliance statement for issued N-5 Data Report.

**Previously Approved CAP**

This Corrective Action Plan is in response to CATD's 17105-WBN-03, 80605-WBN-01, and 80605-WBN-02.

Discrepancies in the hydrostatic testing of penetration assemblies for Units 1 and 2 were reported on NCR 5609. Nonconforming condition report NCR 6420 was issued at a later date to address the hydrostatic testing of Unit 2 penetration assemblies only. NCR 5609 was dispositioned use-as-is for the Unit 1 penetration assemblies and based on this disposition, an N-5 Data Report was completed for the Unit 1 systems involved. Approval of the N-5 Data Report form was based on a policy approved in December 1983, by the Board on Nuclear Codes and Standards. This policy states in part:

It is the sentiment of the Board on Nuclear Codes and Standards that, in these situations, the determination of how to satisfy Code requirements is best resolved through interaction and agreement between the parties involved, taking into account the specific conditions of the situation. Such agreements would include but not necessarily be limited to the Owner, applicable Certificate Holders, their respective Authorized Inspection Agencies, and appropriated jurisdictional and/or regulatory bodies.

The TVA use-as-is disposition was reviewed by the Authorized Inspection Agency, the site Authorized Nuclear Inspector, the Installer (CONST), and the N Certificate holder taking overall responsibility for the piping (EN DES). It was TVA's position at the time that these actions satisfied Code requirements.

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However, the agreements on the use-as-is disposition did not include the Nuclear Regulatory Commission (NRC) as required by the BNCS policy. The course of action specified below will obtain the agreement of all involved parties in the use-as-is disposition in accordance with the BNCS policy, or implement alternative actions to ensure Code requirements are met.

- 1) TVA will prepare a report detailing the actual events leading to the use-as-is disposition of NCR 5609 and TVA's justification for Code compliance. This report will be submitted to the NRC with a request for a technical review.
- 2) If this report is acceptable to the NRC, the Watts Bar FSAR will be revised to include the report by reference.
- 3) If this report is not accepted by the NRC, NCR 5609 will be redispositioned and pressure testing will be performed in accordance with the recommendations provided in memorandum B26 860429 014 for NCR 6400, or as required by the NRC. In either case, the final disposition will be documented in a supplement to the N-5 Data Report Form. The supplement will be signed by the organizations which signed the original N-5 Data Report Form. The approved supplement will be attached to the applicable N-5 Data Form, which shall be annotated to reflect inclusion of the supplement and resigned by the same organizations which approved the original.

### **Revised CAP**

Discussion of history:

Discrepancies in the hydrostatic testing of penetration assemblies for Units 1 and 2 were reported on NCR 5609. Nonconforming condition report NCR 6420 was issued at a later date to address the hydrostatic testing of Unit 2 penetration assemblies only. NCR 5609 was dispositioned use-as-is for the Unit 1 penetration assemblies and based on this disposition, an N-5 Data Report was completed for the Unit 1 systems involved. Approval of the N-5 Data Report form was based on a policy approved in December 1983, by the Board on Nuclear Codes and Standards. This policy states in part:

It is the sentiment of the Board on Nuclear Codes and Standards that, in these situations, the determination of how to satisfy Code requirements is best resolved through interaction and agreement between the parties involved, taking into account the specific conditions of the situation. Such agreements would include but not necessarily be limited to the Owner, applicable Certificate Holders, their respective Authorized Inspection Agencies, and appropriated jurisdictional and/or regulatory bodies.

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The TVA use-as-is disposition was reviewed by the Authorized Inspection Agency, the site Authorized Nuclear Inspector, the Installer (CONST), and the N Certificate holder taking overall responsibility for the piping (EN DES). It was TVA's position at the time that these actions satisfied Code requirements. However, the agreements on the use-as-is disposition did not include the Nuclear Regulatory Commission (NRC) as required by the BNCS policy.

**Corrective Actions**

Issue CAQR WBP880310 to re-address the exact condition identified in NCR 5609 for Unit 1 required penetrations. (Examination of welds during pressure tests for penetrations not covered by the NRC accepted alternative acceptance criteria is covered by WBP880310.)

**Technical Justification**

History unchanged. More accurately describes the actions required by procedure and the Code, and removes excess requirements.

**DEVIATION JUSTIFICATION:**

1. NCR 5609 was closed.
2. CAQR WBP880310SCA (readdressing the same condition) was issued, revised, and closed.
3. NCR 6420 covers Unit 2 only, and the N-5 Data Report Forms have not been issued for Unit 2, so is outside the scope of this concern.

Supplementation N-5 Data Report forms for these actions is not required, since acceptance of the "use-as-is" / "alternative acceptance criteria" makes these welds now in accordance with the Code due to the fact that the Code allows for alternative acceptance criteria with proper approval. The final approval required was from the NRC. This approval was obtained. May 17, 1990, NRC letter to TVA (A02900604016) provides NRC acceptance/approval of the alternative acceptance criteria.

Explanation of N-5 supplementation practice and requirements: This provides justification for not supplementing the N-5 Data Report forms for the population of welds on penetrations which were not covered by the NRC acceptance of this alternative acceptance criteria.

SSP-2.53 provides method and requirements for preparing supplements to N-5 Data Report forms. Only those systems with welding activities which 1) required reperformance of pressure tests, and 2) were performed since original N-5 signing will

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have their most recent welding activity-related pressure tests listed on an N-5 supplement.  
(Note: Specific welds are not listed on N-5 supplement forms as being pressure tested.)



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**CATD R-80-05-SQN-10-R1 (LEVEL IIb DEVIATION) - MISSILE PROTECTION**

CATD R-80-05-SQN-10 documents the issue that EN DES response to the NSRS issue R-80-05-SQN-10 (RIMS CEB 82 0512021 at WBN indicated the following actions would be taken:

1. Missile protection for the following systems
  - a. Eight exhaust for openings for the 125V battery room in the Auxiliary Building
  - b. Six intake and exhaust openings over the transformer rooms of the Auxiliary Building (plus sixteen other openings)
  - c. Eight Diesel Generator (D/G) and nine HVAC openings in the D/G building roof

This activity is mandated by the NRC and inspections indicate the work has been suspended.

**Previously Approved CAP**

The NSRS conducted a review of the design of the Sequoyah containment to determine if it is adequate to withstand the effect of depressurization and missiles caused by tornadoes. Specific problem areas identified by the NSRS, which appeared to lack adequate tornado depressurization and missile protection, were the diesel generator exhaust stacks, penetration through the roof, Diesel Generator Building, refueling water storage tank, primary water storage tank, condensate storage tanks, and the 480 volt shutdown transformer rooms on elevation 749 of the Auxiliary Building. This issue was considered generic to Watts Bar Nuclear Plant (WBN).

This NSRS issue was identified at WBN in CATD R-80-05-SQN-10. The WBN Line management response is contained in the corrective action plan and indicates that the problem has been resolved. However, this response was determined to be incomplete and CATD R-80-05-SQN-10 R1 was issued to adequately address the issue.

The Division of Nuclear Engineering (DNE) (formerly EN DES) responded to this NSRS issue at WBN in a memorandum from EN DES to the NSRS (RIMS Number CEB 82 0512021). The NRC mandated solution was:

1. Install missile protection for the eight exhaust fan openings over the 125V battery rooms in the Auxiliary Building
2. Install missile protection over the six intake and exhaust openings over the transformer rooms in the Auxiliary Building (plus sixteen other openings)
3. Install missile protection over eight diesel generator (D/G) exhaust stacks and nine HAVC openings in the roof of the D/G building

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Also, it was determined that missile protection was needed (but not mandated) for two Reactor Building exhaust openings.

A visual inspection by ECTG indicated that this work had been initiated but apparently suspended. The ECTG evaluation is that this issue is closed; however, the closeout/verification of the CATD will be based on completion of the work described in the CAP.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously Approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

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**CATD SWEC-WBN-13-001 (LEVEL IIa DEVIATION) - ADEQUATE  
INDEPENDENT VERIFICATION**

CATD SWEC-WBN-13-001 documents the issue that the NRC Inspection Report 390/85-21 (update of 390/84-73-01) remains open pending completion of procedure review for adequate independent verification by Instrument and Mechanical Maintenance sections and for completion of instruction revisions for Mode 4 or higher documents.

**Previously Approved CAP**

1. WBN MIs and IMIs will be reviewed and, as appropriate, revised to include IV requirements.
2. Source notes referring to this CATD will be added to SSP-2.03 so that future revisions do not delete the requirement to consider IV in the procedure preparation and review process.
3. Source notes referring to this CATD will be added to PAI-10.01, "Preparation of Maintenance Instructions," so that future revisions do not delete the requirements to consider IV in the MI and IMI preparation and review process.
4. An independent review of a representative sample of MIs and IMIs will be conducted by Site Quality Assurance.

**Revised CAP**

1. Delete action.
2. No change.
3. No change.
4. No change.

**Technical Justification**

The requirement of item (1) of approved CAP is programatically contained in Chapter 5, Section 2.3 of the Nuclear Performance Plan, Volume 4, which requires MIs and IMIs to receive a technical review for incorporation of commitments. SSP-2.03, Administration of Site Procedures, and PAI-10.01, Preparation of Maintenance Instructions, both contain requirements to incorporate IV when required in accordance with SSP-12.06, Verification Program. These programmatic controls provide the methods to ensure remaining MIs and IMIs are reviewed for proper IV incorporation.

NOTE: The NPP, Volume 4, requires completion of the Procedure Upgrade Program (which includes IV) before fuel load (NCO890112069 and NCO890112074).

## **2.0 NONPLANT SPECIFIC (NPS)**

### **CATD 10900-NPS-03 (WBN PORTION ONLY; LEVEL IIa DEVIATION) - PIDG LUGS ON SOLID CONDUCTORS**

CATD 10900-NPS-03 (WBN portion only) documents the issue that terminations using PIDG lugs on solid conductors have been questioned in SCR WBNEEB8537. The condition also exists at SQN.

#### **Previously Approved CAP**

Replace PIDG terminal lugs or add solder to PIDG terminal lugs for those used in safety related circuits where failure would create a safety concern.

To prevent recurrence TVA has revised General Construction Specification G-38 to specify the correct lugs to use. Also construction and plant implementing and inspection procedures have been revised.

#### **Revised CAP**

Replace, add solder, or technically justify the use of PIDG terminal lugs used in safety related circuits where failure would create a safety concern.

To prevent recurrence TVA has revised General Construction Specification G-38 to specify the correct lugs to use. Also construction and plant implementing and inspection procedures have been revised.

#### **Technical Justification**

Some PIDG terminal lugs can be UL approved for use on either solid or stranded conductors. Technical justification will be handled per existing procedural requirements (e.g., exceptions to Spec. G-38).

**CATD 17101-NPS-01 (LEVEL IIb DEVIATION) - INADEQUATE STORAGE  
REQUIREMENTS FOR LIMITORQUE VALVE OPERATORS**

CATD 17101-NPS-01 documents the issue that Technical Standard TS 01.00.15.14.03 (DPM N82A17) RO, "Equipment and Material Storage Requirements for Nuclear Power Stores," paragraph 7.26 relative to the minimum storage requirements for Limitorque valve operators was inadequate based on NQAM, part III, section 2.2, paragraph 5.4.2.9; DPM N82M3 requirements dated May 19, 1982; and the Limitorque Vendor Manual. (Reference: ECSP CATD No. 17101-NPS-01).

**Previously Approved CAP**

The DPM N82A17 will be modified to include Limitorque Corporation recommended long-term storage requirements. These are consistent with EQ requirements. The applicable portions of N82M3, dealing with storage of Limitorque operators will be reviewed for incorporation into DPM N82A17.

**Revised CAP**

Site standard procedures will contain requirements to ensure Limitorque operators are stored in accordance with vendor requirements.

**Technical Justification**

DPM documents are no longer being used in TVAN.

**CATD 19200-NPS-01 (LEVEL IIa DEVIATION) - EVALUATION OF CONDUIT SIDE WALL PRESSURE TESTING AND VIOLATION OF THE 360 DEGREE BEND REQUIREMENT**

CATD 19200-NPS-02 documents the complete evaluation of conduit side wall pressure testing being conducted at Central Laboratory and establish disposition of previously installed conduit at WBN, BFN, SQN, and BLN, violating the 360 degree bend requirement.

**Previously Approved CAP**

1. TVA's Central Laboratory test results on cable sidewall bearing pressure concluded that allowable pressures were 4 to 5 times higher than previous manufacturer's limits. Calculations for SQN and WBN and test results concluded that cable pulling practices in the worst case conduit configurations for SQN and WBN would not result in sidewall pressures that cause damage to the cable insulation. These test results were consistent with the EPRI Report No. EL-3333. An independent third part, David A. Silvers & Associates, Inc., has concluded that the TVA testing is a reasonable basis for increased sidewall pressure values. Specification Revision Notice SRN-G-38-11 has been issues to raise the sidewall bearing pressure limits based on this testing and conclusions of the third party review.
2. General Construction Specification G-40 has also been revised to limit the total sum of all bends in a conduit run to 360 degrees between pull points.
3. The testing and analysis results have been submitted to the NRC. TVA is continuing resolution with the NRC on this issue; if any additional corrective action, either short-term or long-term, is required as a result, then the CAP will be revised accordingly.
4. Calculations for cable sidewall bearing pressure for Browns Ferry and Bellefonte Nuclear Plants remain to be completed.

**Revised CAP**

Corrective action is deferred to 10900-NPS-01 Step 1, sidewall bearing pressure.

**WBN CAP (10900-NPS-01) step 1**

**Cable Sidewall Bearing Pressure**

- I. Develop design calculations to determine the magnitude of SWBPs exerted on Class 1E cables in existing conduit installations at WBN.

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- II. Perform screening calculations to reduce the number of conduits to those containing Class 1E cables which have the greatest potential of having exceeded their allowable SWBP.
- III. Determine sample of conduits to be walked down - approximately 20 each from voltage levels V2, V3, V4, and V5.
- IV. Calculate maximum expected sidewall bearing pressures and compare to the allowable limits per General Construction Specification G-38.
- V. Perform testing at TVA Central laboratories to demonstrate the acceptability of higher SWBP limits, based on actual cables used at TVA nuclear plants.
- VI. Based on these new limits, one conduit from the 81 identified severe-case configurations contained cables which exceeded the limits when calculated in one direction. The cables in this conduit will be replaced.
- VII. Perform independent review by third party to corroborate the results of TVA's SWBP tests.
- VIII. Revise TVA engineering and construction procedures to address SWBP appropriately.
- IX. Revise the design calculation and issue DCNs to address:
  - Class 1E voltage level V1 conduits
  - Utilization of verified cable weights
  - Replacement of cables in the one outlying conduit
- X. To provide further confidence, randomly select additional 40 conduits located in harsh environments which have not been previously analyzed. Perform SWBP calculations and compare to revised SWBP limits on Construction Specification G-38.
- XI. If analysis of 40 conduits proves cables were not subjected to excessive SWBPs during installation, then no further demonstration of adequacy is necessary.
- XII. TVA will provide a response to the issues in the WBN TER relative to the applicability of TVA's cable SWBP testing program to actual plant installation conditions.
- XIII. Additionally, TVA will further enhance G-38 to require additional engineering participation when the expected SWBP for new cable installations approach the maximum allowable limits.

SQN, BLN, BFN (U1 AND U3) CAP (10900-NPS-01) step 1

TVA's central laboratory test results on cable sidewall bearing pressure concluded that allowable pressures were four (4) to five (5) times higher than previous manufacturer's limits. Initial calculations for WBN have been performed and are under review. Final calculations for SQN have been completed and test results concluded that cable pulling practices in the worst case conduit configurations for SQN would not result in sidewall pressures that cause damage to the cable insulation. These test results were consistent

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with the EPRI Report No. EL-3333. An independent third party, David A. Silvers & Associates, Inc., has concluded that the TVA testing is a reasonable basis for increased sidewall pressures values.

The testing and analysis results have been submitted to the NRC. TVA is continuing resolution with the NRC on this issue, if any additional corrective action, either short-term or long-term, is required as a result, then the CAP will be revised accordingly.

In addition General Construction Specifications, G-38 and G-40 have also been revised to limit the total sum of all bends in a conduit run to 360 degrees between pull points.

NOTE: Calculations for BLN and BFN will be completed prior to restart for BFN and prior to fuel load for BLN.

BFN (U2) CAP (10900-NPS-01) step 1

SIDEWALL BEARING PRESSURE (SWP)

TVA has performed independent tests to determine sidewall pressure limits for the types of cables used in their Nuclear Program. These results are documented in TVA QA Record "Cable Sidewall Bearing Pressure Tests". A walkdown shall be performed of a sample of conduit installations at BFN to determine if the installed configurations are similar to those analyzed at SQN. SWP Calculations will be performed on conduits which were selected during the walkdown based on the apparent difficulty of the pull. The cable materials used for BFN shall be compared to those of SQN to identify if they have similar durability for resistance to SWP damage.

Also evaluations performed for pullbys will review all available unit 2 and applicable unit 1 and 3 pullslips, identify pull groups and calculate expected pull tensions for conduits containing eight or more V2 or V3 and four or more V4 cables. A sample of those with the highest expected SWP values will be tested as part of the program for analysis of pullbys. Methods for sample selection and test voltages will be coordinated with the NRC and results shall be transmitted to the NRC in a report prior to restart.

**Technical Justification**

The wording of Rev 3 of 10900-NPS-01 Step 1 is substantially the same, and the intent is the same as Steps 1 through 4 of this CATD. Note that BFN and WBN have requested and received Level IIa deviations to Rev 3 of 10900-NPS-01, Step 1, but in both cases the deviations were not commitment reductions and meet the intent of the above problem description.



**CATD 20501-NPS-04 (LEVEL IIa DEVIATION) - INSTRUCTIONS FOR ELECTRICAL CALCULATIONS NOT ISSUED AND/OR IMPLEMENTED**

CATD 20501-NPS-04 documents the issue that the Sargent and Lundy developed Electrical Engineering Branch Controlling Instructions for electrical calculations have not been issued and/or implemented.

**Previously Approved CAP**

All electrical engineering calculations required to support the design basis of a standard nuclear plant will be performed in the long term electrical calculations program. The long-term electrical calculation program will correct the root cause conditions adverse to quality by development of a program that both prescribes all electrical calculation activities and interfaces and ensures control of the correctness/completion of electrical calculations.

In order to meet these objectives, EEB has purchased a calculations program from an A/E that includes: 1) Procedures, standards, guides, and practices that are understood and user oriented, and that yield predictable consistent high quality results, eliminate duplication of effort, assures technical adequacy, and reduces the work effort for the project/plant, and 2) Training of EEB employees on these procedures, and how to perform calculations. Other objectives of this program are: to develop computer software programs and an electrical database for all future calculations to establish consistency between nuclear projects, to ensure that all future work is incorporated into the design change process, and to be more responsive and timely in the performance of electrical calculations, perform the electrical calculations not required for fuel loading, and revise/supersede existing calculations.

TVA has evaluated three A/E's for this effort and based on a bid evaluation, has purchased Sargent and Lundy's program. This program included electrical procedures, standards, guides, and practices, computer software that has been QA'd for nuclear applications, and inhouse employee training program on procedures and how to perform calculations.

Watts Bar and Bellefonte essential calculations using this long term program will be performed prior to fuel load. Essential calculations for Sequoyah and Browns Ferry are presently being performed under existing TVA programs and procedures. After restart, these calculations will be evaluated under the Sargent and Lundy program and will be revised and/or superseded as applicable.

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### Revised CAP

TVA Corporate Engineering and Modifications (Electrical) will issue documents which:

1. Identify all electrical calculations required to support the design basis of TVA's nuclear plants,
2. Provide technical requirements and/or guidance in the performance of electrical calculations.

In addition, CE&M-E will develop and/or procure computer programs, meeting TVA quality assurance requirements, which may be utilized by TVA nuclear sites to perform electrical calculations. Computer program training will be provided by CE&M-E to site personnel on an as-needed basis.

NOTE: During the time period required to develop the above documents, CE&M specialists will provide independent review, technical assistance, or technical supervision, as required, to ensure the adequacy of site electrical calculations.

### Technical Justification

The original corrective action plan (CAP) for CATD 20501-NPS-04 described the procurement (from Sargent and Lundy, Engineers), development, and implementation of a "long-term" electrical calculations program consisting of the following elements:

1. Calculation procedures, standards, guides, and practices,
2. Procedures training,
3. Computer programs, meeting TVA quality assurance requirements, to perform electrical calculations.

At the time of evaluation of Subcategory Report 24600, "Design Calculations," by the Employee Concerns Special Program (ECSP), the "long-term" electrical calculations program had been initiated, but upper-tier documents (i.e., Controlling Instructions), had not been fully issued. CATD 20501-NPS-04 was written to document this failure. Specifically, the CATD problem description stated:

"The Sargent and Lundy developed electrical engineering branch Controlling Instructions for electrical calculations have not been issued and/or implemented."

The original CAP failed to fully address this concern. Instead, the CAP provided details of the calculation program which were already known and were contained in Subcategory Report 24600. The purpose of this CAP deviation is to address the original concern regarding the status

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of the Controlling Instructions and to describe significant changes to the "long-term" electrical calculations program which have occurred since the original CAP was issued.

The Controlling Instructions, which were a part of item 1 of the original corrective action plan, governed the "long-term" electrical calculations program in the following areas:

1. Conversion of Sargent and Lundy documents for use in the program,
2. Preparation, review, and approval of instructions and standards,
3. Training,
4. Preparation, validation, review, and approval of computer programs,
5. Preparation, review, and approval of calculations,
6. Technical monitoring

As previously stated, the Controlling Instructions provided the upper-tier (administrative) framework for the electrical calculations program. The Controlling Instructions were needed to allow integration of the remainder of the Sargent and Lundy calculation program into the TVA procedures system.

Subsequent to the release of CATD 20501-NPS-04, all Controlling Instructions were issued, and issuance of other program documents (Technical Instructions, Design Standards, etc.) was begun. In addition, other elements of the "long-term" program were initiated, such as formal procedures training, and utilization, by Sequoyah and Watts Bar sites, of Sargent and Lundy computer programs.

During this process, the effectiveness of the Sargent and Lundy program was evaluated by TVA Electrical Department management. The evaluation determined that many elements of the Sargent and Lundy electrical program were redundant to requirements contained in the revised and improved Nuclear Engineering Procedures (NEPs) which were issued in mid-1986 to govern the reorganized Division of Nuclear Engineering design engineering activities. These NEPs described the verification review, issuance, and revision process of TVA or vendor calculations, including tracking unverified assumptions, notifying users when previously unverified assumptions had been verified, processing calculation revisions in the same manner as the original, and evaluating calculations for inconsistencies, errors, and omissions. The NEPs also specified that a review be done to ensure the incorporation of such items as proper application of design input; incorporation of feedback data; compatibility of system, structure, and component interfaces; technical adequacy; quality; economy; and conformance with general project concepts. Requirements were also incorporated regarding the roles of preparer, checker, and independent reviewer.

During the evaluation, Electrical Department management also contacted other utilities, architect/engineering firms, and software developers/providers to determine if computer programs

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existed which provided more comprehensive electrical calculation capabilities than the Sargent and Lundy programs. Such programs were found.

Based on this evaluation, Electrical Department management elected to redirect the electrical calculation program, including phasing out the Sargent and Lundy Program and implementing a TVA-directed program. As detailed in the proposed corrective action, this program includes the same elements as the original Sargent and Lundy program, but it consists of TVA-developed procedures. In addition, it utilizes computer programs developed by TVA and by outside organizations, as appropriate, to provide the most effective solution to automating calculation performance. Finally, the program relies heavily on the technical expertise, review, and monitoring of electrical calculations by Corporate Engineering specialists, as described in TVA procedures, during the implementation phase of the program.

**CATD 21804-NPS-01 (LEVEL IIb DEVIATION) - PIPING DESIGN CRITERIA DOES NOT EXCLUDE BRANCH LINES**

CATD 21804-NPS-01 documents the issue that existing TVA piping design criteria do not exclude flexible, short, open-ended branch lines from the moment of inertia ratio decoupling rules. This exclusion could result in this type of line not being seismically qualified because such piping could respond dynamically to motion of the run line and such response would not be properly accounted for.

One instance has been noted (problem 03021, R0) in which a branch line is not adequately rigid to show seismic qualification utilizing the methodology of the current TVA criteria.

Examples of acceptable techniques that could be used for seismic analysis of such piping include, but are not limited to:

- a. coupling the branch line with the run line,
- b. modifying the support configuration and/or geometry of the branch line to make it effectively rigid to thereby preclude the necessity of analyzing the branch line for the effects of seismic inertia (but not maximum seismic displacements) or,
- c. analyzing the branch line for the effects of seismic inertia by including response spectra generated from the run line at the location of branch line attachment.

**Previously Approved CAP**

A CAQR has been written by TVA on the flexible open-ended drain line attached to the 16-inch feedwater line to address:

- The finding that the water hammer loadings were not adequately considered.
- The finding that the seismic analysis of the drain line was not valid because the decoupling procedure used did not account for any amplified response caused by the 16-inch feedwater line.
- The finding that the design criteria and procedures did not address the decoupling of open ended branch lines adequately.

A Generic Review (as outlined in NEP 9.1) will be made to assess the generic implications of the CAQ on WBN, SQN, BFN, and BLN. The other plants will review their safety related analyses to determine if the same situation exists.

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All design criteria and procedures which should address decoupling methods will be revised to give acceptable techniques for dynamic analysis of flexible open ended branch lines. The following techniques are considered acceptable:

- Coupling the branch line with the run line.
- Modifying the geometry and/or support configuration of open-ended flexible branch lines to make them effectively rigid. The dynamic displacements and accelerations of the run line must be considered in the branch line analysis.
- Analyzing the branch line for the effects of dynamic inertia by including response spectra generated from the run line at the location of the branch line attachment.
- Locating supports on the run line such that the run line does not amplify the building response at the point where the branch line is attached. For this case the building response spectra can be used for the analysis of the open-ended branch lines.

The documents to be revised will include rigorous and simplified analysis handbook, alternate analysis procedures, and design criteria for both rigorous and alternately analyzed piping.

### **Revised CAP**

A CAQR has been written by TVA on the flexible open-ended drain line attached to the 16-inch feedwater line to address:

- The finding that the water hammer loadings were not adequately considered.
- The finding that the seismic analysis of the drain line was not valid because the decoupling procedure used did not account for any amplified response caused by the 16-inch feedwater line.
- The finding that the design criteria and procedures did not address the decoupling of open ended branch lines adequately.

A Generic Review (as outlined in NEP 9.1) will be made to assess the generic implications of the CAQ on WBN, SQN, BFN, and BLN. The other plants will review their safety related analyses to determine if the same situation exists.

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All design criteria and procedures which should address decoupling methods will be revised to give acceptable techniques for dynamic analysis of flexible open ended branch lines. The following techniques are considered acceptable:

- Coupling the branch line with the run line.
- Modifying the geometry and/or support configuration of open-ended flexible branch lines to make them effectively rigid. The dynamic displacements and accelerations of the run line must be considered in the branch line analysis.
- Analyzing the branch line for the effects of dynamic inertia by including response spectra generated from the run line at the location of the branch line attachment.
- Locating supports on the run line such that the run line does not amplify the building response at the point where the branch line is attached. for this case the building response spectra can be used for the analysis of the open-ended branch lines.

It is proposed that the last paragraph be revised to:

“The documents to be revised will include rigorous analysis handbook, alternate analysis procedures, and design criteria for both rigorous and alternately analyzed piping.”

#### **Technical Justification**

At the time when the CAP was written, WBN was permitted to perform analysis using a Simplified Analysis Handbook (SAH). BFN and SQN did not have a SAH for analysis. The WBN-SAH was voided on 3/24/89.

**CATD 24000-NPS-01 (WBN PORTION ONLY; LEVEL IIa DEVIATION) - NO  
EVALUATION/TEST CONDUCTED ON OVERFILLED CABLE TRAYS IN  
FIRESTOPS**

CATD 24000-NPS-01 (WBN portion only) documents the issue that no evaluation/test conducted on overfilled cable trays in firestops was identified (also addressed in CATD 24000-SQN-01). The effect on ampacity of abandoned cables in raceways is not addressed in WBN design documents (also addressed in CATD 23803-SQN-01).

**Previously Approved CAP**

TVA will review the fire stop configuration and available calculations of fire stop temperature rise to determine if the effects of overfills can be calculated or if additional fire stop testing is required to establish ampacity derating. An appropriate derating factor will be determined to ensure that cables in an overfilled fire stop do not exceed their qualified insulation temperature rating. All power cable trays which pass through a fire stop and exceed the maximum established fill will be determined. The ampacity of all cables, safety related and nonsafety related routed with safety related (associated), in these tray will be verified using the established derating and DS-E12.6.3.

All other power cable trays which pass through fire stops will have their tray fill frozen at or below the maximum established value.

Abandoned cables will be addressed when the ampacity study for installed cables is performed per corrective action for PIR GENEEDB8605. Since these abandoned cables will contribute no heat to the mass, they will add conservatism to our study. If TVA chooses to remove this conservatism by removing the abandoned cables from the tray fill data, a study will be performed on the affect of the insulating properties of the abandoned cables on other cables in the raceway and DS-E12.6.3 will be revised if abandoned cables are found to have a significant adverse affect on cable ampacity.

**Revised CAP**

The CCRS software maintains the power cable tray fill at or below the design criteria allowable (maximum) value unless technically justified by engineering documentation.

**Technical Justification**

The intent of the approved CAP is that the raceway fill shall not be exceeded without proper justification.



**CATD 30400-NPS-01 (LEVEL IIa DEVIATION) - LACK OF CORPORATE CONTROL OVER DESIGN AND MAINTENANCE ACTIVITIES**

CATD 30400-NPS-01 documents the issue that as noted in the Findings and Collective Significance sections of Report 30400, there is a lack of corporate control over design and maintenance activities associated with water in electrical manholes at all sites.

**Previously Approved CAP**

Corporate Engineering has initiated a program to revise and update general engineering specifications. This will provide Nuclear Power with specifications to cover construction, modifications and additions, and maintenance of TVA's nuclear plants. This scope will be complete by Dec. 1990 and will be added to as user needs are identified. General Engineering Specification G-40 is being expanded to include engineering requirements for electrical manholes and handholes. The specification will require manholes and handholes be maintained free of standing water and that they be periodically inspected to ensure they are free of standing water.

**Revised CAP**

General Engineering Specification G-40 will be expanded to include engineering requirements for electrical manholes and handholes. The specification will be revised to state: "Manholes and handholes shall be maintained free of standing water to the extent practical. Provisions (i.e., sump pumps or drains) shall be made to remove standing water. Standing water as a result of low areas, uneven surfaces or surfaces designed to drain to other sumps, or surfaces designed for minimal water levels (i.e., handholes or french drains) is acceptable as long as the water level in the manholes and handholes containing safety related cables is below all cables and electrical devices." G-40 will also require periodic inspections of manholes and handholes containing safety-related cables to these criteria.

**Technical Justification**

The approve CAP required that all manholes and handholes be maintained free of standing water, including inspections to verify the absence of standing water. Although it is recommended all manholes and handholes be maintained free of standing water to the extent practical, it is not a requirement to inspect manholes or handholes which do not contain safety-related cables. As such, these manholes and handholes are not essential to emergency reactor shutdown, containment isolation, reactor core cooling and containment and reactor heat removal or otherwise essential in preventing significant release of radioactive material to the environment. In addition, the proposed corrective action plan changes the requirement from "free of standing

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water” to “free of standing water to the extent practical.” This change is necessary because manholes and handholes cannot be maintained completely free of standing water under all conditions; however, the change specifies that the water level in manholes and handholes containing safety-related cables must be below all cables and electrical devices.

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**CATD 30403-NPS-01 (WBN PORTION ONLY; LEVEL IIa DEVIATION) - STANDING WATER IN ELECTRICAL MANHOLES AT ALL SITES**

CATD 30403-NPS-01 documents the issue that problems were identified with standing water in electrical manholes at all sites. Although this is not considered safety-related, a potential safety issue may exist with regard to "water treeing" of insulation on level V voltage cables. CATD 30403-SQN-01 was written for DNE to address this issue at SQN; however, because this issue is generic, a response should be made applicable for all sites.

The need to initiate this CAP deviation was identified by the NRC.

**Previously Approved CAP**

FOR WBN ONLY

Ref: WBPER930495

1. Revise the WBN manhole maintenance procedure (0-PMP-040-0065MH1) to define actions required for flooded sumps, including requiring NE analysis and recording actual conditions of flooding.
2. Determine source of water in those manholes found flooded (7A and 7B) and determine action to prevent further leakage. Issue and implement a DCN to correct problems.

**Revised CAP**

FOR WBN ONLY

No change requested for items 1 and 2 of the Previously Approved CAP.

Ref: WBSCA940057

3. Complete further corrective action to define effects of flooding (primarily on equipment and supports) and prevent future manhole flooding as required by SCAR WBSCA940057.

**Technical Justification**

FOR WBN ONLY

3. SCAR WBSCA940057 was initiated because recurrence control actions of PER WBPER940495 failed to prevent flooding of electrical manholes due primarily to equipment

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being out of service (failed or turned off) without alternate measures for flood control. The SCAR covers all actions and analysis required to correct this problem.

**CATD 30708-NPS-02 (LEVEL IIa DEVIATION) - POTENTIAL DEFICIENCIES  
DURING EVALUATION OF CAQ REPORTING PROGRAM**

CATD 30708-NPS-02 documents the issue that during the evaluation of the CAQ Reporting Program, potential deficiencies were noted. A review of the requirements of NQAM, Part I, Section 2.16, however, revealed the following potential deficiencies:

- a. Responsibility for determining 10 CFR 50.55 (e) reportability is undefined.
- b. For CAQs where a determination has been made that there is no generic applicability or potential effect to plant operability, no further review of this determination is required.
- c. No method is identified to provide generic applicability evaluation results to the organization responsible for root cause determination.

These deficiencies are addressed by CATD 30708-NPS-02. The Construction (CO) CEG identified other inadequacies and deficiencies in the new CAQ program in a construction fact sheet.

**Previously Approved CAP**

RESPONSE TO POTENTIAL DEFICIENCY NO. 1: Paragraph 5.9.1 to NQAM, part 1, section 2.16, R2, states that for nuclear units with construction permit DNSL determines reportability requirements of CAQs under 10 CFR 50.55(e). Quality Systems Branch feels that further action is not required.

RESPONSE TO POTENTIAL DEFICIENCY NO. 2: Response to generic applicability on sheet 2 of the CAQR form in NQAM, part I, section 2.16, R2, requires supervisor approval of the individual from the responsible organization determining whether a review for generic implications is required. Response to potential affect on operability: Paragraph 7.2.4 says that the management reviewer is responsible for determining potential impact on operability. Although there is not an inline approval of this determination, the "note" to paragraph 7.0 says that at anytime during the processing of a CAQR, if the CAQ is determined to potentially affect operability, a copy of the CAQR shall be sent to PORS of the potentially-affected plant. Quality Systems Branch feels that further action is not required.

RESPONSE TO POTENTIAL DEFICIENCY NO. 3: We acknowledge that NQAM, part 1, section 2.16, R2, does not specifically require that the results of a generic review are returned to the responsible organization who determines root cause. When the procedure is revised in April, it will address sending the results of the generic review by potentially-affected organizations to the organization responsible for determining the root cause.

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**Revised CAP**

NOTE: NO. 1 and 2 actions are not being changed by this CAP deviation. Only NO. 3 is being changed.

NO. 3: Prior to sending a CAQ for generic review, the responsible organization is required to determine the root cause (when required) and develop a corrective action plan. The identified problem, root cause, and the corrective action plan are provided to the potentially-affected organizations with the request for a generic review. This change was incorporated with the changes made to NQAM, Part I, Section 2.16, R3, in June 1987, and is reflected in the current Corrective Action Program, TVAN STD-3.4, R4.

**Technical Justification**

NO. 3: The proposed CAP provides for effective communication of the identified problem, root cause, and corrective action plan to the potentially-affected organization. Returning the generic review results to the responsible organization that performed the root cause and developed the corrective action plan does not achieve additional quality.

NOTE: When the CATD was initiated NQAM, Part I, Section 2.16, R2, required that CAQs be sent out for generic review prior to the responsible organization determining root cause and developing a corrective action plan. Specifically, the root cause of the problem and the corrective action plan for resolving the problem was not required to be communicated to the potentially-affected organization.

**CATD 30710-NPS-01 (LEVEL IIa DEVIATION) - PROPOSED PROGRAMS CHANGES  
IN ASME NOT GIVEN USQD EVALUATION**

CATD 30710-NPS-01 documents the issue that (a) Proposed programs changes contained in ASME Section XI relief requests are not given a USQD evaluation as required by Area Plan Procedure 0604.04 "Unreviewed Safety Question Determination Intent, Method, Review, and Approval," (b) Area Plan Procedure 0602.01 Revision 0, dated 12/05/83 "Coordination of Licensing Activities in the Division of Nuclear Power" makes no provision for the application of 10 CFR 50.59 (USQD) to ASME Section XI relief requests.

The need to initiate this CAP deviation was identified by the NRC.

**Previously Approved CAP**

The purpose of completing an unreviewed safety question determination in accordance with 10 CFR 50.59 is to determine if NRC approval is required before making a change in the facility described in the FSAR, a change in procedures described in the FSAR or implementing a test not described in the FSAR.

The requirement for maintaining the ASME Section XI program can be found in the technical specifications for all TVA operating units. That requirement specifies conformance with ASME Section XI requirements unless written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). To comply with that section of NRC's regulations, TVA must submit a request for relief with supporting information to ensure the relief will not endanger life or property and is otherwise in the public interest.

Because the proposed ASME Section XI relief request constitutes a portion of the licensing basis after approval by NRC no further evaluation is required for implementation.

Area Plan Procedure 0604.04 has been replaced by PMP 0604.04, "Evaluation of Changes, Tests, and Experiments". Area Plan Procedure 0602.01 has been replaced by PMP 0602.01, "Management of TVA's Interface With the Nuclear Regulatory Commission (NRC)". Appropriately, neither document requires a USQD for ASME Section XI relief requests.

No corrective action is required for this CATD.

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**Revised CAP**

The purpose of completing an unreviewed safety question determination in accordance with 10 CFR 50.59 is to determine if NRC approval is required before making a change in the facility described in the FSAR, a change in procedures described in the FSAR or implementing a test not described in the FSAR.

The requirement for maintaining the ASME Section XI program can be found in the technical specifications for all TVA operating units. That requirement specifies conformance with ASME Section XI requirements unless written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). To comply with that section of NRC's regulations, TVA must submit a request for relief with supporting information to ensure the relief will not endanger life or property and is otherwise in the public interest.

Because the proposed ASME Section XI relief request constitutes a portion of the licensing basis after approval by NRC no further evaluation is required for implementation.

Area Plan Procedure 0604.04 has been replaced by PMP 0604.04, "Evaluation of Changes, Tests, and Experiments". Area Plan Procedure 0602.01 has been replaced by PMP 0602.01, "Management of TVA's Interface With the Nuclear Regulatory Commission (NRC)". Appropriately, neither document requires a USQD for ASME Section XI relief requests.

TVA procedures which deal with ASME XI requirements do not specifically address the performance of unresolved safety question determinations for ASME XI relief requests. However, the 10 CFR 50.59 procedure has always required that any proposed changes which meet the USQD performance criteria have a USQD performed regardless of whether or not an ASME XI relief request is involved. That is, if the proposed change meets the criteria for USQD, then a USQD is performed. To provide redundant assurance that USQDs are not inadvertently overlooked, the Corporate Standards dealing with ASME Section XI requirements (NP STDs 6.9, 6.10, 8.5, 8.6) will have a note incorporated into them reminding preparers of relief requests to consider whether the criteria for performing an USQD has been met.

**Technical Justification**

Revision to incorporate recommendations from the Lookback Review and Inspection Report 390/94-10.



**CATD 80312-NPS-01 (LEVEL IIb DEVIATION) - MODIFY INCORRECT STATEMENT**

CATD 80312-NPS-01 documents the issue that NSRS I-85-373-NPS, which was approved on February 17, 1986, included a copy of Quality Technology Company ERT Investigation Report dated January 31, 1986. This ERT Report initiated a "Request for Reportability Evaluation" on January 31, 1986. To date, there is no objective evidence available which indicates that this evaluation was ever performed.

The need to initiate this CAP deviation was identified by the NRC.

**Previously Approved CAP**

1. ONP has no objective evidence available which indicates the reportability evaluations were ever performed. The policy to address concerns for potential problems should be handled in the following manner. The current Employee Concerns Special Program (ECSP) evaluates all concerns for potential problems. Based on these evaluations, Corrective Action Tracking Documents (CATDs) are prepared and forwarded to the applicable line organization for preparation of a Corrective Action Plan (CAP). Part of this CAP is a review for a Condition Adverse to Quality (CAQ). Once a CAQ is issued, a determination for significance is performed. If the CAQ is determined significant, the appropriate licensing review for reportability is performed. Thus, all employee concerns are reviewed as part of the ECSP for reportability.
2. The specific concerns discussed in the NSRS report I-85-373-NPS and QTC report are covered by ECTG reports 80301, 80113, and 80302.
3. 80301-NPS-01 - Response showed no CAQ at this time.
4. 80113-NPS-01 - Response showed no CAQ.
5. 80113-WBN-02 - Is being evaluated by ECTG.
6. Report 80302 which specifically addressed On-The-Job-Training (OJT), found the issue could not be verified as factual.
7. Thus, based on ECTG reports and line response, no condition adverse to quality was identified, thus no reportability evaluation is required for the problems as stated.

**Revised CAP**

1. ONP has no objective evidence available which indicates the reportability evaluations were ever performed. The policy to address concerns for potential problems should be handled in the following manner. The current Employee Concerns Special Program

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(ECSP) evaluates all concerns for potential problems. Based on these evaluations, Corrective Action Tracking Documents (CATDs) are prepared and forwarded to the applicable line organization for preparation of a Corrective Action Plan (CAP). Part of this CAP is a review for a Condition Adverse to Quality (CAQ). Once a CAQ is issued, a determination for significance is performed. If the CAQ is determined significant, the appropriate licensing review for reportability is performed. Thus, all employee concerns are reviewed as part of the ECSP for reportability.

2. The specific concerns discussed in the NSRS report I-85-373-NPS and QTC report are covered by ECTG reports 80301, 80113, and 80302.
3. 80301-NPS-01 - (Inaccurate personnel records) - Response showed no CAQ.
4. 80113-WBN-01 - (Non compliance to "Quality Reinspection Program") - There are 2 CAQRs associated with the completion of this CATD. WBP890079P was issued and determined to be a Problem Reporting Document (PRD), not significant and not reportable. NCRW334PSCA was determined to be significant and reportable and the appropriate forms were submitted to the NRC.
5. 80113-WBN-02 - (IRNs inappropriately voided) - Response showed no CAQ.
6. Report 80302 noted that the OIG was investigating the issue regarding falsification of records. This issue was substantiated at SQN but the corrective action program determined that there were no hardware problems involving safety related systems or components, therefore, no Conditions Adverse to Quality (CAQs) were written thus reportability evaluations were not required.
7. Thus, based on ECTG reports and line responses to related CATDs, one significant CAQ was issued and was determined to be reportable. The appropriate licensing documents were transmitted to the NRC.

**Technical Justification**

1. No change for this paragraph.
2. No change.
3. Added subject for clarity and removed "at this time" since the CATD is closed and the investigation complete.

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4. Correct typographical error ("NPS" was changed to "WBN"). The NPS document does not exist. The WBN document was verified to contain the correct subject matter concerning the reinspection program. The WBN CATD now referenced had two associated CAQs which require documentation of a reportability review.
5. Added subject for clarity.
6. Report 80302 noted that the issue regarding falsification of records was being investigated by the OIG and was not investigated further by the ECTG report. The NSRS and OIG investigation resulted in:
  1. Responsible individuals were disciplined at SQN following substantiation of records falsification.
  2. A stop work order was placed on the inspector certification process.
  3. A revision to the inspector certification process was enacted.
  4. Accessible welds inspected by suspect inspectors were reinspected.

During the investigation, only one weld (at SQN) required rework. SQN Site Licensing determined that no safety-related equipment or systems were affected and no CAQs were issued.

The above actions are documented in CATD I-85-373-NPS-02-10. Also, the applicability for WBN, BFN, and BLN (determined to be not applicable) are discussed.

7. The related CATD, 80113-WBN-01, associated with this CATD had a significant CAQ written, required a reportability evaluation, and thus should be documented here. The conclusion in the first paragraph of the CAP, that reportability is determined from the resulting CAQs is still valid. This CAQ and resulting reportability determination was missed in the initial reviews due to the typographical error. Further information can be found in CATD Package 80113-WBN-01.

**CATD I-85-373-NPS-01-009 (LEVEL IIb DEVIATION) - ADEQUACY OF NDE OJT DOCUMENTATION**

CATD I-85-373-NPS-01-009 documents the issue of adequacy of NDE OJT documentation. Reference I-85-373-NPS-01.

1. Ensure that whatever modifications to the new QC and NDE On-The-Job Training Manual are made, if any, do not result in diluting the commitment to detailed verification of required OJT.
2. Until the new QC and NDE On-The-Job Training program is implemented, the POTC should not certify inspectors (stop work) without receipt of detailed OJT verification in the form of inspection listings, including item-by-item initialing by the training inspector. This recommendation was previously communicated by NSRS on January 14, 1986, to the POTC via the Sequoyah Site Director and the NUC PR QA manager. This will require a change to 0202.14.

**Previously Approved CAP**

The OJT Manual is based on the guidelines provided by INPO document TQ-501. Any modifications made to the OJT manual will be consistent with TQ-501. It is not expected that TQ-501 will reduce or dilute the currently recommended level of verification of OJT. Responsible individual/organization - M. McCrary, Division of Nuclear Training.

Since February 10, 1986, the NDE Level IIIs at the POTC have not issued initial certifications without detail inspection listings validated by qualified inspectors in the field. This has been implemented through W. E. Andrew's memorandum dated February 10, 1986, and by agreement between the POTC and the Inservice Inspection Group (D. A. Howard).

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager..

**CATD I-85-373-NPS-03-11 (LEVEL IIa DEVIATION) - RESOLUTION OF EMPLOYEE RESPONSE BARRIERS**

CATD I-85-373-NPS-03-11 documents the issue of resolution of employee response barriers.  
Reference: I-85-373-NPS-03

1. NUC PR management should consider cross training as a means of rotating management which has become inbred in certain areas such as QC/ISI.
2. The employee concerns program has to be staffed with individuals who have had minimal personal connection or prior work association with their counterpart line managers. Otherwise, employees will lack confidence in the program and will take their concerns elsewhere.
3. Criteria for promotions should be divorced from the present requirements for a large number of certifications. Recognized ability as a good OJT instructor is one good substitute which might recognize real value to the group more equitably.

*NOTE: THIS CAP WAS REVISED A SECOND TIME LATER IN THE REPORTING PERIOD.*

**Previously Approved CAP**

**ITEM 1:**

Cross-training of management between the line and quality assurance for short timeframes would provide valuable experience and insight into the problems encountered by each organization but might not be advisable for permanent rotations. A significant level of independence with respect to production pressure is necessary within the Site Quality Organization, and line managers might not be able to provide this degree of independence without significant adjustments. In addition, efforts to staff the new Site Quality Organizations and shifting of the plant staff have placed unusual restraints on available resources and made rotation of personnel unfeasible. The Employee Concern Program (ECP) currently in effect within ONP provides a variety of reporting mechanisms whereby a concerned individual can freely report a concern and be assured that actions will be taken to provide an evaluation and necessary corrective actions. The ECP program has helped to open communication channels and should provide an acceptable method of ensuring that concerned individuals have methods of voicing concerns even if their immediate management does not take what they consider to be appropriate action. Responsible individual/organization - J. Hamilton, SQN Site Quality Organization.

**ITEM 2:**

The ECP has been staffed with personnel with broad technical backgrounds and experience, and who possess the interpersonal skills, identified as necessary for the job. ECP representatives are typically selected through a process which evaluates the individual's interpersonal skills through psychological and aptitude screening, panel

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interviews, and interactive role planning. This selection process has provided a group of well qualified individuals who are capable of effectively handling employee concerns. Program procedures prohibit issue investigation by staff having prior work association with the issue in question. Responsible individual/organization - E. Sliger, Employee Concerns Staff

ITEM 3:

New job descriptions for QC inspectors are being developed which emphasize inspector qualification in accordance with ANSI 45.2.6, ANSI 101.4 and SNT-TC-1A. These job descriptions will not prescribe a specific number of certifications in order to be promoted to a higher grade. Promotions in general will be based on an individual's performance and experience. The new job description mentioned above will be completed by October 1, 1986. Responsible individuals/organization - R. W. Dibeler, DNQA, Technical Support Manager.

**Revised CAP**

ITEM 1:

No change.

ITEM 2:

The ECP has been staffed with personnel with broad technical backgrounds and experience, and who possess the interpersonal skills, identified as necessary for the job. ECP representatives are typically selected through a process which evaluates an individual's interpersonal skills through psychological and aptitude screening, panel interviews, and interactive roll planning. This selection process has provided a group of well qualified individuals who are capable of effectively handling employee concerns. Concerns Resolutions Staff (CRS) procedures provide for independence in the resolution process, and confidentiality for the Concerned Individual (CI).

ITEM 3:

No change.

**Technical Justification**

1. N/A
2. This concern deals with the impression that CRS personnel's prior work association with technical problems or personal association with counterpart line managers would cause a lack of confidence in the program and the taking of concerns elsewhere. The CRS deals with this impression by maintaining a separate independent management chain (Per guidance given by

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Management directive MD-1.8 which requires that the Manager of the CRS reports directly to the Senior Vice President) and by stressing and advertising confidentiality (CRS Staff Instruction 1, Program Administration and 9, Posting of Concerns Resolution Information). To provide assurance that a continuing atmosphere exists in which an employee would feel free to raise a concern, the CRS periodically determines employees' understanding of and satisfaction with the CRS program. This is primarily done via interviews with exiting employees and assessing questionnaires (reference CRS Staff Instruction 1). Recent NRC audits and OIG audits have also been performed. CRS procedures do not prohibit issue investigation by staff having prior work association with the issue in question. However, any investigation done by the CRS internally is required to be reviewed by the CRS Site Representative who has the responsibility (per Staff Instruction 1) to provide for an independent review of an issue. If the issue is referred to another organization, the CRS first assures adequate independence for the organization performing the review. Also, the CRS will not normally refer an issue back to the immediate organization from which they originate without first discussing this with the CI. It should be noted that the associated NSRS report has no backup data for this finding and that the CAP for this CATD was a series of statements concerning the CRS (ECP) Program. This CAP Deviation simply corrects some of these statements concerning the CRS Program administration.

3. N/A

**CATD I-85-373-NPS-03-011 (LEVEL IIb DEVIATION) - RESOLUTION OF  
EMPLOYEE RESPONSE BARRIERS**

CATD I-85-373-NPS-03-11 documents the issue of resolution of employee response barriers.  
Reference: I-85-373-NPS-03

1. NUC PR management should consider cross training as a means of rotating management which has become inbred in certain areas such as QC/ISI.
2. The employee concerns program has to be staffed with individuals who have had minimal personal connection or prior work association with their counterpart line managers. Otherwise, employees will lack confidence in the program and will take their concerns elsewhere.
3. Criteria for promotions should be divorced from the present requirements for a large number of certifications. Recognized ability as a good OJT instructor is one good substitute which might recognize real value to the group more equitably.

*NOTE: THIS DEVIATION SUPERSEDED THE PREVIOUSLY SHOWN DEVIATION.*

**Previously Approved CAP**

**ITEM 1:**

Cross-training of management between the line and quality assurance for short timeframes would provide valuable experience and insight into the problems encountered by each organization but might not be advisable for permanent rotations. A significant level of independence with respect to production pressure is necessary within the Site Quality Organization, and line managers might not be able to provide this degree of independence without significant adjustments. In addition, efforts to staff the new Site Quality Organizations and shifting of the plant staff have placed unusual restraints on available resources and made rotation of personnel unfeasible. The Employee Concern Program (ECP) currently in effect within ONP provides a variety of reporting mechanisms whereby a concerned individual can freely report a concern and be assured that actions will be taken to provide an evaluation and necessary corrective actions. The ECP program has helped to open communication channels and should provide an acceptable method of ensuring that concerned individuals have methods of voicing concerns even if their immediate management does not take what they consider to be appropriate action. Responsible individual/organization - J. Hamilton, SQN Site Quality Organization.

**ITEM 2:**

The ECP has been staffed with personnel with broad technical backgrounds and experience, and who possess the interpersonal skills, identified as necessary for the job. ECP representatives are typically selected through a process which evaluates an individual's interpersonal skills through psychological and aptitude screening, panel



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interviews, and interactive roll planning. This selection process has provided a group of well qualified individuals who are capable of effectively handling employee concerns. Concerns Resolution Staff (CRS) procedures provide for independence in the resolution process, and confidentiality for the Concerned Individual (CI).

ITEM 3:

New job descriptions for QC inspectors are being developed which emphasize inspector qualification in accordance with ANSI 45.2.6, ANSI 101.4 and SNT-TC-1A. These job descriptions will not prescribe a specific number of certifications in order to be promoted to a higher grade. Promotions in general will be based on an individual's performance and experience. The new job description mentioned above will be completed by October 1, 1986. Responsible individual/organization - R. W. Dibeler, DNQA, Technical Support Manager.

**Revised CAP**

ITEM 1:

No change.

ITEM 2:

No change.

ITEM 3:

Certain job descriptions for Quality Control/Non-destructive examiner personnel specifies a certain number of certification requirements as part of minimum qualifications. These are as listed below:

- Nuclear Quality Control Inspector (NQCI), SE-5: Level II certification in one specific area of a discipline and acquire certification in additional inspection disciplines as required by the QC supervisor to support the needs of TVA.
- NQCI, SE-6: Level II certification in two full disciplines and four special certifications. (Note: This PD was revised effective 10/22/93 to require certification in two full disciplines and two special certifications. Additional certifications as required by the supervisor.)
- Quality Assurance Specialist (QA), SD-2: Level I certification in one volumetric area, plus level II in two surfaces, or one level II volumetric. May be required to obtain additional certifications based on need as determined by management.

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- QA Specialist, SD-3: Certified as level II NDE examiner in 1 volumetric plus two level II surfaces or two level I volumetrics plus two level II surfaces. May be required to obtain additional certifications based on need as determined by management.
- QA Specialist, SD-4: Certified as level II NDE examiner in 1 volumetric plus two level II surfaces, or two level I volumetrics plus two level II surfaces. May be required to obtain additional certifications based on need as determined by management.

### Technical Justification

Certain Quality Control/Nondestructive Examiner job descriptions written on or after February 25, 1988 prescribe a specific number of certifications to meet minimum requirements; however, the number of certifications required is not considered excessive for the grade level. Specifically, the previous job description for grade SE-5 required seven discipline certifications. This was reduced to one specific area of a discipline. Additionally, higher grade levels require less certifications than that initially stipulated for the SE-5 under the old job description.

Adequate controls have been included in the training and certification programs to ensure inspectors/examiners remain proficient in areas certified. Specifically, the certification programs were developed and are administered/controlled by level III personnel, all of which are under the same organization. These programs as defined in Inspection/Examination Procedure (IEP)-201, "Qualification and Certification of Nuclear Quality Control Inspectors," and IEP-200, "Qualification and Certification Requirements for Nuclear Power NDE Personnel" include the following:

- Formal training with performance based examination.
- Specific on-the-job training requirements.
- 80 percent comprehension required for certification examinations for QC and an 80 percent average for NDE for written and practical exams with no one exam being below 70 percent.
- Annual continuity for each limited area. (Example: A full mechanical certification includes piping, supports and mechanical equipment/components. However, an annual continuity is required in each limited area vs. the full area.)
- Recertification by examination is required at 3-year intervals in addition to continued satisfactory performance.

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- Level III inspector/examiner personnel periodically monitor the performance of the inspectors to ensure adequate performance. This monitoring program is addressed in IEP-202. Since the initial proposed corrective action for this CATD, the certification programs have been revised to combine the Construction and Nuclear Power Programs. This provides further consistency in implementation and control.

Even though specific quantities of certifications are required by the various grade levels noted above, they are not considered excessive for the position(s). Inspection/examination personnel promoted to these grade levels have obtained sufficient experience and knowledge to effectively maintain proficiency in the required number of certifications. Promotions are based on knowledge, skills, abilities and experience, with minimum certifications requirements being a part of the experience factor.

**CATD I-85-373-NPS-04-012 (LEVEL IIb DEVIATION) - POTC RESOLUTIONS OF IDENTIFIED QUALITY ASSURANCE DEFICIENCIES**

CATD I-85-373-NPS-04-012 documents POTC resolutions of identified Quality Assurance deficiencies. Reference: I-85-373-NPS-04

POTC should evaluate and correct the following quality assurance discrepancies identified in its NDE certification program (see Attachment C, Details and Conclusions):

1. Issue the "Quality Control and Nondestructive Examination On-The-Job Training Manual" after the noted discrepancies identified on page 4 of the Attachment C have been resolved.
2. Delete the use of or revise the Exhibit D forms to more clearly define information required to be put on the form.
3. Institute Document Control on NDE certification records.
4. Perform an evaluation of the documentation adequacy of certification forms. Use the input from recommendation I-85-373-NPS-02. Correct deficient documentation.
5. Withdraw certifications where eye examinations have not been taken.

**Previously Approved CAP**

The following addresses the items listed in CATD I-85-373-NPS-04. The original response is given in report: I-85-373-NPS; Attachment 8; pages 7 through 10. Where appropriate updated material has been added, the referenced report is included within this package.

Item 1: Issue the "Quality Control and Nondestructive Examination On-The-Job Training Manual" after the noted discrepancies identified on page 4 of Attachment C have been resolved.

Response: The QC/NDE OJT Manual has been issued and is on controlled distribution to all affected supervisors.

The following is provided in reference to QTC opinions pertaining to the QC/NDE OJT Manual:

QTC: The statement in the OJT Manual, "The OJT Qualification Guide . . . does not require implementation," downgrades this document from a requirement to a guide.

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Response: The OJT Manual is, in fact, a guide for the performance of OJT. The Institute of Nuclear Power Operations recommends that OJT programs be developed in the form of OJT guides.

This built-in flexibility is needed because the manual cannot possibly be designed to anticipate all the OJT situations which offer valid and excellent training opportunities for trainees.

QTC: This document (the OJT Manual) does not state who is within its scope or who will be subject to its implementation.

Response: The scope of the OJT Manual must be defined by an additional implementing procedure or management requirement. Paragraph I.B of the OJT Manual states, "The OJT Qualification Guide shall be implemented by a program procedure or other authorized TVA procedure or by management policy statement." The various ONP divisions and organizations are responsible for determining the required training for their personnel.

Currently DNQA implements the OJT through QMP 102.4, paragraph 6.1.1.

QTC: Section II.B(2) (6) does not define the term "...based on ..."

Response: The complete sentence referred to above reads as follows:

"The minimum number of practical assignments to be completed for each NDE discipline shall be based on the number of "work-time experience" hours defined in PMP 0202.14, "Qualification and Certification of NDE Personnel."

PMP 0202.14 has been superseded by QMP 102.4

The amount of work-time experience required for each NDE method is defined in QMP 102.4. The minimum number of assignments required to complete OJT in a method is the number done in accrual of the minimum required experience time defined in QMP 102.4. The sentence in question is self-explanatory.

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It should be noted that controls are in place through the certification process by Level IIIs to assure that the minimum amount work-time experience and thus OJT practical assignments are met.

- QTC: The manual fails to address what actions will be taken if a trainee fails some portion of the manual. The manual is designed to allow repeated OJT until the trainee has successfully completed each portion of the manual. If a trainee fails some portion of the manual, controls are in place through the trainee repeating that OJT portion until it is successfully completed. Responsible individual/organization - M. McCrary, Division of Nuclear Training.
- Item 2: Delete the use of or revise the Exhibit D forms to more clearly define information required to be put on the form (P2).
- Response: Since February 10, 1986, the use of the Exhibit D has been supplemented with detail inspection listings validated by qualified inspectors in the field. This has been implemented through W. E. Andrew's memorandum and by agreement between the POTC and the In-Service Inspection Group (D. A. Howard). These actions provide the assurance that the OJT has actually been performed which is the intent of this recommendation. QMP 102.4 has incorporated these recommendations. Responsible individual/organization - M. McCrary, Division of Nuclear Training.
- Item 3: Institute Document Control on NDE certification records.
- QMP 102.4, Section 7 specifies document control responsibilities.
- Item 4: Perform an evaluation of the documentation adequacy of certification forms. Use the input from recommendation I-85-373-NPS-02. Correct deficient documentation.
- Response: An evaluation of the adequacy of work-time experience documentation has been performed. The evaluation concluded that the work-time experience and associated documentation required by TVA procedure complies with TVA commitments. Adding the requirement for the detail inspection listings validated by qualified inspection, as has been described in the responses above, has significantly increased the information documented in support of inspectors on-the-job experience and should preclude this type concern in the future. Responsible individual/organization - M. McCrary, Division of Nuclear Training.

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Item 5: Withdraw certifications where eye examinations have not been taken.

Response: Eye examinations have been successfully completed for all individuals where certifications are current. In addition, eye examinations have been successfully completed where lapses have occurred. The QC/DNE Training Section has implemented a system whereby responsible supervisors are notified when lapses occur. The supervisors are recommended to initiate appropriate QA action relative to the specific lapses identified. As a result of the sections above, no certifications are required to be withdrawn.

**Revised CAP**

Same as Previously Approved CAP.

**Technical Justification**

Previously approved CAP not changed. The CAP was missing the required approval signature of the ECTG Manager.

**CATD R-81-04-YCN/NPS-01 (WBN PORTION ONLY; LEVEL IIb DEVIATION) -  
INADEQUATE LEVEL OF SAFETY REVIEW FOR WATTS BAR**

CATD R-81-04-YCN/NPS-01 (WBN portion only) documents the issue that (NSRS Report R-81-04-YCN/NPS-01 Level of Safety Review of Yellow Creek Nuclear Plant (YCN)) WBN is not receiving an adequate level of safety review. No minimum safety review requirements have been established by NEB.

**Previously Approved CAP**

NEB has previously addressed the subject concern and our responsibilities have been carried out per applicable criteria, procedures, and established guidelines (refer to EDC 820316 023 and B45 850502 268). There are no implications for past or present reviews of WBN.

After our initial response there was a remaining concern dealing with the absence of a procedure on "safety reviews" and as a result of this NEB issued NEP-EP-25.4.6, "Guidelines for Discretionary Safety Reviews," May 14, 1984 (ESB 840507 201), and revision 1 to this document was subsequently issued November 6, 1985 (B42 851112 506). This procedure states methodology for the performance of discretionary safety reviews. In addition, the issuance of upper-tier documents such as OEP-10 and its successor NEP-5.2 further clarified the "Review" area and stated the responsibilities of other disciplines in this area. Therefore, it is NEB's opinion that NEP-5.2 and NEB-EP-25.4.6 sufficiently specify the responsibilities for safety reviews in DNE.

**Revised CAP**

Subsequent to the corrective action plan in R-81-04-YCN/NPS-01 Rev 0, the Design Basis Verification Plan Corrective Action Plan (DBVP CAP) was performed. The DBVP CAP and SEP-9.5.6, Design Verification, ensure the existing plant design and future designs/design changes will be properly reviewed. SMP-8.0, Administration of Preoperational Test Instructions, and SMP 3.0, Joint Test Group Charter, ensure that all startup tests are properly reviewed prior to conducting tests during plan startup. SSP-2.03, Administration of Site Procedures, SSP-12.54, Plant Operations Review Committee Charter, SSP-12.13, Safety Evaluations 10CFR50.59, and SSP-8.04, Special Tests, ensure the remaining safety related activities in the operations phase will be properly reviewed.

The above procedures and programmatic approach ensure safety review is adequately addressed.



Special Supplemental Report  
WBN Unit 1 CAP Deviations

**Technical Justification**

The DBVP was performed subsequent to the original CAP as a result of omissions and deficiencies revealed in the design review process. The new CAP addresses the DBVP and procedures which ensure an adequate design review process.